

610.5

D85

134



Library
of the
Academy of Medicine,
Toronto.

2910

1916



THE
DUBLIN JOURNAL
OF
MEDICAL SCIENCE

EDITED BY
SIR JOHN W. MOORE, M.A., M.D., M.Ch. DUBL., D.Sc. OXON.,
PAST-PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF IRELAND,
SENIOR PHYSICIAN TO THE MEATH HOSPITAL AND COUNTY DUBLIN INFIRMARY,
CONSULTING PHYSICIAN TO CORK-STREET FEVER HOSPITAL,
EX-SCHOLAR AND DIPLOMATE IN STATE MEDICINE
OF TRINITY COLLEGE, DUBLIN.
HONORARY PHYSICIAN IN ORDINARY TO H. M. THE KING IN IRELAND;
and
T. GILLMAN MOORHEAD, B.A., M.D. DUBL.,
FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS OF IRELAND,
PHYSICIAN TO THE ROYAL CITY OF DUBLIN HOSPITAL,
CONSULTING PHYSICIAN TO THE CLONSKEAGH FEVER HOSPITAL,
DIPLOMATE IN STATE MEDICINE.

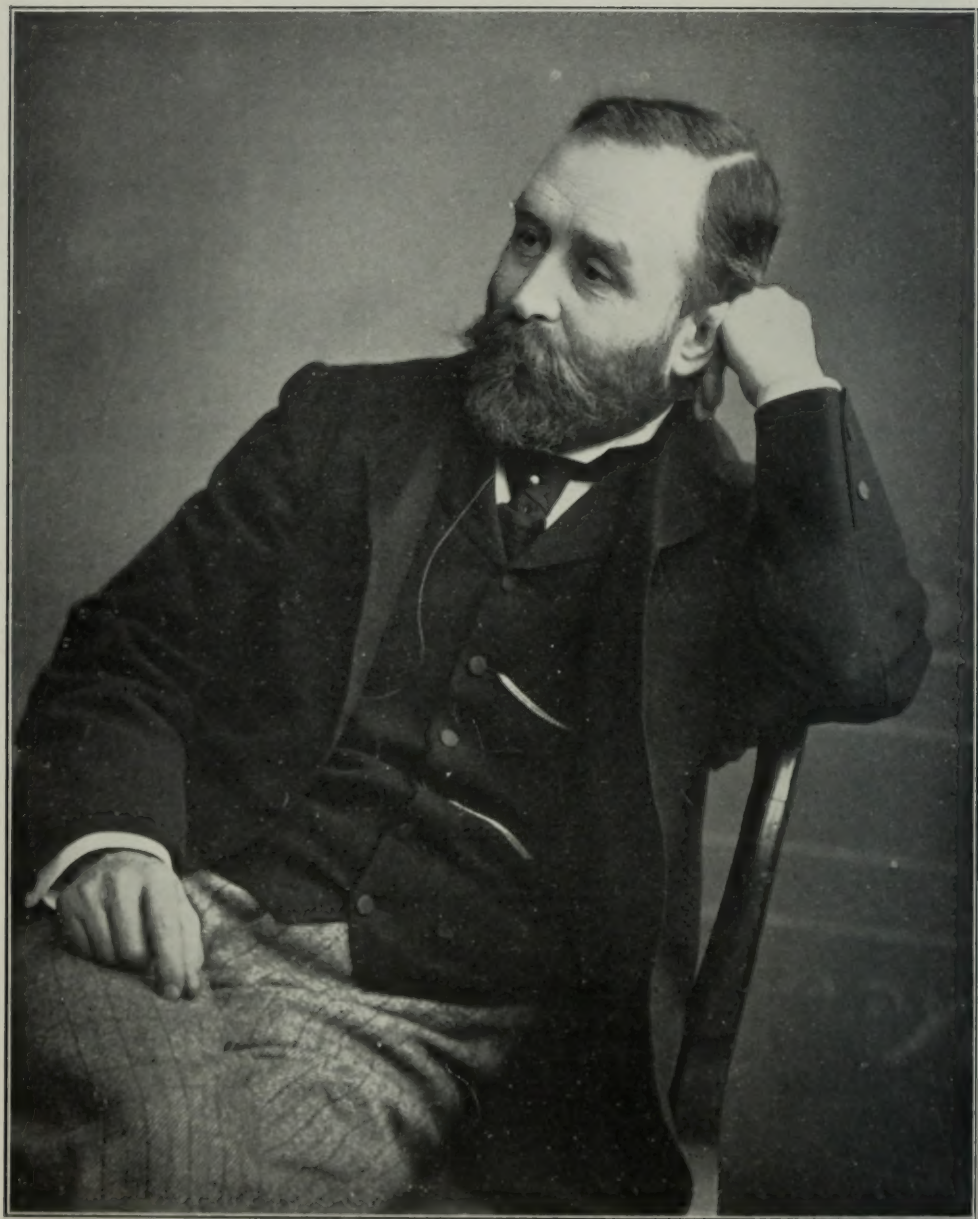
VOL. CXXXIV.
JULY TO DECEMBER, 1912.

DUBLIN:
FANNIN & COMPANY, LTD., GRAFTON-STREET.
LONDON: SIMPKIN, MARSHALL & CO.
EDINBURGH: JAMES THIN.
PARIS: HACHETTE & CO.

1912.

DUBLIN : PRINTED BY JOHN FALCONER. 53 UPPER SACKVILLE-STREET.





SIR THORNLEY STOKER, M.D., Bart. ;
Fellow and Ex-President of the Royal College of Surgeons in Ireland

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

JULY 1, 1912.

PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*Remote Effects of Syphilis.*^a By HENRY C. DRURY, M.D. Univ. Dubl.; F.R.C.P.I.; Physician to Sir Patrick Dun's Hospital, Dublin.

I HAVE thought that a short paper provocative of discussion, rather than one relating a "queer" case, or one attempting to introduce ideas of my own, may be productive of interest and instruction by reason of that discussion.

Lately I was somewhat astonished, on talking to a member of the profession who has had a large circle of practice and a very large measure of intelligence, to find that it was quite a new idea to him that tabes dorsalis was believed by many to be due to syphilis. He was so astounded at the idea that I do not believe he could persuade himself to entertain it.

It is borne in upon me, with increasing force during each year of experience that passes over me, that the remote effects of syphilis are not only very numerous, and

^a Read before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, May 24, 1912.

often very remote, but far more so than we are accustomed to consider. That in obscure conditions and in the unexpected behaviour of, apparently, ordinary conditions of disease, it is well to remember the possibility that we may be dealing with more than one morbid condition; that what is apparent may be modified by what is not apparent, and that the latter may be really the dominating factor. Let me give one example:—A gentleman, aged about sixty-three, long known to me professionally, got an ordinary bronchial attack. He was a fine, big, hearty man of great intelligence, and with very wide general knowledge. One of the ways in which he showed this was by a careful study of all my prescriptions! The bronchial attack proved very intractable, and the rhonchi were being gradually replaced or added to by large and small moist *râles*, with copious muco-purulent expectoration and consequent continuous coughing—these conditions were steadily increasing in spite of the greatest care and my most artful prescribing. One day an incident caused me to think of “lues,” and I immediately said, “I am going to change your medicine,” and wrote out a prescription containing iodide of potassium. He held out his hand for it, to study it as usual, and at once laughed. “Is that what you are going for? What dose is that you are giving me?” “Five grains,” I said. “Tut, man, make it ten, I’ve swallowed pounds of it in my day.” I made it ten, and it acted like magic. Each day he improved with extraordinary rapidity, so that in a few days he was about again, apparently quite well.

This is not an isolated experience. Not infrequently in hospital cases, where there are found unusual conditions in the lungs not explainable by examination of other organs, I have given iodide of potassium, and with the happiest results. Now, it is not usual in any textbook or monograph to find that syphilitic disease of the lungs is described as a common condition, and in the sense of definite syphilitic lesions I do not think that it is common; but I do think that in syphilitic subjects the

lungs are just as likely to be in a morbid, though quiescent, state as any other part of the body, and that when affected by an ordinary or simple catarrhal process, the quiescent morbidity of syphilis may become active, and so seriously aggravate the previously simple catarrh. One day I noticed on the forehead of a man-servant a fine secondary rash. Some months after he came or was sent to the hospital, as he had a very bad cough, which had stuck to him a long time, and he looked so wretched that it was feared he was in consumption. On seeing him I at once remembered the "corona Veneris," and prescribed the Mist. I. & Hg. of the "house." It cured him like a charm, and when he gets a cough he always gets this mixture, and it cures him with certainty and rapidity.

We have not yet enough experience of salvarsan to speak with much certainty about its possibilities and its limitations. Astonishing results, however, have sometimes been noticed following its administration. Old cases of lupus or rodent ulcer that had been subjected to every known treatment, for years perhaps, with only partial success, have cleared up with remarkable rapidity by salvarsan. These cases had been dealt with by men of great experience and mature knowledge, and it is not likely that they were wrong in their diagnosis all through. May it not be that they were right and the salvarsan was right also, that the lupus or the rodent ulcer was working on tissues altered by old—it might be congenital—syphilis, and that the morbidity of this discounted the treatment applied to the other, until a treatment was applied so rapid and powerful in its action that it quickly removed the underlying morbidity, and a cure was at length obtained.

Aneurysm is one of the remote effects of syphilis. I think there is no doubt that atheroma of the vessels, without syphilis, may in many cases cause aneurysm; but this is nearly always in elderly or old people. In young people aneurysm is, I think, always caused by syphilis.

Just after I was qualified I saw a young man who

had been a fellow-student, though senior to me, with a hard chancre. He had been treated by another doctor, but did not approve of his methods, and applied to me. He was so intolerant to both mercury and iodide of potassium that he was almost untreated. I very soon lost sight of him, but later heard of him through a medical friend in the country. Four or five years after—that is, when he was about twenty-seven or twenty-eight years old—he developed a popliteal aneurysm, which increased with great rapidity, and he had to have his femoral tied. I have known of two or three other cases of aneurysm in young or middle-aged people where there was a clear history of syphilis, but never one where syphilis could be excluded.

The remote effects, as seen in congenital cases, are truly melancholy. I know a charming woman, the mother of a family. She is quite blind of one eye, the result of interstitial keratitis and other troubles; there is bad sight in the other eye; she is nearly stone deaf. These are all, I believe, the result of her father's youthful follies! Her mother was six times pregnant before she reared a child. She reared four; one of these died in her early "teens" from brain-fever, so-called; the other three all bore signs of congenital syphilis.

Remote effects connected with the nervous system are, however, numerous and the most important. In 1887, when Gowers published his book on "Diseases of the Spinal Cord," he laid great stress on syphilis as a cause of tabes dorsalis; but he gave several other possible causes. He says:—"Among the individual causes one overshadows all the rest—the influence of syphilis." "In the lower classes the proportion has been estimated at 70 or 80 per cent., or even more." Fournier was the first to point out, in 1876, this wide relationship, and though his opinions were at first received with scepticism, they were soon confirmed and accepted by those who doubted. Neurologists have gradually been giving less prominence to other causes and more to syphilis, till now it alone is

looked upon by many as responsible for true locomotor ataxia. The latest pronouncement I have by Gowers is in a joint article by him and James Taylor, published in 1901, where it is said :—" This (*i.e.*, syphilis) can be traced as an antecedent in more than two-thirds of the cases, and it is notorious that syphilis often occurs when it is not traceable. It must be regarded as the remote cause in at least four-fifths of the cases." It is probable that since this was written some systematic investigation has been given to cases in which there was no specific history, by means of Wassermann's reaction, but I have not met it. For instance, Dr. Herbert French reported quite recently (*Medical Press*, February 14th, 1912) to the Royal Society of Medicine, the case of a man aged fifty-nine, treated at St. Thomas's Hospital when sixteen for gonorrhœa, but without any history of syphilis. He had symptoms of tabes dorsalis, but with this peculiar feature—that one knee-jerk was absent, whereas the other was brisk. Here the Wassermann reaction was positive, and was evidently used as a help in clearing up the diagnosis, thus indirectly showing what a potent influence syphilis was considered to have in the causation of tabes.

The interval between the primary syphilis and the first symptoms of tabes varies from two to twenty years. It has been noted that in many of the cases the specific symptoms were mild, and the treatment not very fully carried out. Unfortunately, once tabetic symptoms appear anti-syphilitic treatment is useless, and has no effect on either the progress of the disease or the symptoms. The lesion in the cord is not truly a syphilitic one, but rather a degenerative sequel, due probably to the toxins produced by the syphilis, which pick out a certain system of fibres.

Most of us can call to mind cases strongly supporting this connection between tabes and syphilis. I will briefly note one. A young member of the profession, of healthy family, fine physique, and well known in the athletic fields, acquired syphilis. He was of rather careless dis-

position, and as soon as the inconvenient symptoms of his disorder subsided, carried out the treatment in a very haphazard manner, or gave it up altogether. Within a very few years he developed symptoms of locomotor ataxy in a rather acute form, was soon quite invalided, later bed-ridden, and died soon after.

Another system disease of the cord—spastic paraplegia—seems sometimes to be caused by syphilis, and this causal connection is recognised by Gowers. I have notes of one case, and have the patient still under observation, in which cause and effect seem well marked. A young man, aged about twenty, attended me for severe secondary symptoms. They soon yielded to treatment, when, as often happens, he ceased to attend me, and gave up treatment. About nine months or a year later he came to me with early, but quite marked, symptoms of spastic paraplegia. I have frequently examined him since, but the symptoms remain those of pure spastic paraplegia and nothing else, and have lasted now about nine years.

General paralysis of the insane is termed a para-syphilitic disease by Fournier, who was the first to point out that it was due to acquired or inherited syphilis. This terrible disorder, with its multiform symptoms, is now more frequently recognised than it was a generation ago, for whereas it used to be considered a very rare form of insanity in Ireland it is now known to be comparatively common. The late Dr. Conolly Norman held very strong views on the causal relation of general paralysis and syphilis, and in a difficult case for diagnosis the recognition of antecedent syphilis determined the diagnosis in favour of general paralysis of the insane. A young man, the brother of a young medical friend of mine, attended me for primary and secondary syphilis. Though earnestly warned of the importance of keeping up the treatment it is believed he did not do so. A few years after he showed symptoms of insanity. Dr. Norman was called in, and had some uncertainty as to the

kind of insanity, and, therefore, the prognosis. The medical brother, having seen an old prescription of mine amongst the patient's papers, suggested I should be asked as to what I knew of his previous history. I was able to state definitely that he had acquired syphilis about four or five years before. Dr. Norman then made the positive diagnosis of general paralysis of the insane, and gave a very bad prognosis. The patient was sent to an asylum outside Ireland. There a very hopeful and confident prognosis was given. In about six months he improved so much that he was sent home. His friends were horrified at his changed appearance, and could easily see that he was anything but well. He was soon sent away again, got rapidly worse, and soon died. Even when he was supposed to have recovered and was sent home, Dr. Norman, in talking to me about him, even though he had not seen him, scoffed at the supposed recovery, and was certain he would soon relapse, and would not live long—so certain was he of the diagnosis formed after getting the syphilitic history.

This disease is probably one of the worst of the many bad remote effects of syphilis. It cuts off a life suddenly and slowly at the same time—suddenly by withdrawing the guiding mind, but slowly by allowing the unguided body to gradually deteriorate into a useless and helpless vegetation. The only trace of satisfaction to be obtained is that it is probably the sole form of insanity which does not tend to reappear in the offspring; but this is not recognised by the public, and the unhappy family carry the shadow and, perhaps, the fear of it to their graves.

Several other less definite conditions carrying disastrous consequences are among the remote effects of syphilis—paralysis of cranial nerves, tumour of the brain or cord, occlusion of cerebral vessels, &c.

Lately in Vienna (*Medical Press*, February 14th, 1912) Pelez stated that he had come to the conclusion that 4.67 of syphilitic subjects suffered from paralysis of some kind. Redlich, at the same time, said he thought 4.7 per cent.

far too low an estimate, and eight to fifteen years after the acquisition of the virus was too short for an accurate estimation.

Two cases which lately came under my notice have impressed me greatly. The first, a skilled carpenter, aged about thirty-five, of respectable appearance and fine physique, not addicted to alcohol, so far as we could learn, one day while at work felt his right hand getting numb, then felt his right leg giving way under him, so that he was about to fall but was helped by his fellow workmen, who brought him up to Sir Patrick Dun's Hospital. He did not become unconscious, and remembered all the details of being helped, being brought to hospital, and being put to bed, but was unable to speak. I found him with aphasia and complete right hemiplegia. On examining him I found on one leg a large irregular, brown pigmented patch, the skin soft and glazed on it, and no underlying induration—a patch which to me was characteristic of an old syphilitic sore which had healed.

I put him on our house mixture of iodide of potassium and perchloride of mercury. In six weeks he left the hospital for a convalescent home. The grasp of his right hand was not so powerful as that of his left, otherwise no one would have known there had been anything wrong with him.

The second case turned up quite soon afterwards. About 11 o'clock one night I was called out to see a gentleman, aged about fifty. A curious noise being heard at the hall door, his sister opened it and found him fumbling there, but unable to speak or to lift his right hand. He had been out to see a friend, and this condition came on as he was returning home. He did not lose consciousness, but evidently had some loss of memory, as he wandered about various streets before he found his own house, lost both his umbrella and latch-key without being aware of it, and had not sense to ring the door bell, but stood fumbling at the door endeavouring to get in. I

found he had aphasia and right brachial monoplegia. There was, apparently, no loss of power in the right leg. On examining him after I got him to bed, to see whether he had fallen and injured himself, I found on one leg on the outside aspect a large oval, brown, pigmented patch with some superficial thin scabs and scales about its central part, which I again diagnosticated as an old syphilitic lesion. He also I put on mercury and iodide of potassium. Nine weeks after the attack he had good use of the right hand, except that he could not write properly yet. His speech had recovered to a large extent—that is, he could make himself understood, and when he began to speak to one he said sentences quite distinctly, but as he went on, he grew more and more indistinct. He continued improving, however, steadily.

Now, the origin of both these cases was, to my mind, almost certainly syphilitic. Both came on quickly, not suddenly, but gradually; neither lost consciousness; both had marks of old syphilitic ulceration, and both recovered fairly rapidly. Neither had any sign of aneurysm nor valvular disease of the heart from which an embolism might have travelled to the brain. The condition we are taught to expect in such a case is syphilitic disease of a vessel leading to occlusion, thrombosis, and consequent cerebral softening, but from such as this one would not expect recovery, and, indeed, this is also the teaching, and that it is useless to give anti-syphilitic remedies. Nevertheless, it is hard to avoid trying such remedies where one believes there is positive evidence of syphilis in sight, and the treatment will at least do no harm to the condition in question. It is hard, also, to persuade oneself that the rapid improvement is a mere coincidence, and not in any way attributable to the treatment of the disease which one believed caused the paralysis. It may be that there are syphilitic lesions, other than gummata in the brain, which are removable by specific treatment, for neither of these cases seems to fit either gumma or thrombosis with softening.

Chesterfield, writing to his son, warned him of the sorry figure he would cut if his pursuit of female society resulted in the loss of his nose. Some such crude ideas of disfigured features and "breakings-out" give to the lay mind a wholesome fear of contracting syphilis: it is a fear which is but feebly prophylactic. Outward and obvious manifestations of this dire malady are mere trivialities compared with the remote and hidden tragedies which it consummates in the human organism and in the family. If these were more fully appreciated the dread of them might prove a stronger prophylactic.

ART. II.—*On a Case of Meningitis due to Bacillus typhosus.**

By J. O'CARROLL, F.R.C.P.I.; Physician, Richmond, Whitworth and Hardwicke Hospitals; and F. C. PURSER, M.D., F.R.C.P.I.; Assistant Physician, Richmond, Whitworth and Hardwicke Hospitals.

THE patient, P. S., a boy aged nine years, was admitted to the Hardwicke Hospital on June 20th, 1911, as a case of typhoid fever. On June 17th he got a severe pain in the right side of the abdomen, and had become generally ill. On admission his tongue was coated with a dry, brown fur, his teeth were covered with sordes, and his abdomen was distended and somewhat rigid. His temperature was 102.4°, his pulse 128, and respirations 36. More proper signs of typhoid, such as enlarged spleen and *rose spots*, were absent. There were passed from two to four motions daily. The Widal reaction was positive on the day after admission. His mental condition from the first excited notice. He was dull and listless, he answered questions very imperfectly, and he resented being disturbed, and resisted any attempts at handling. These symptoms of what has been termed meningism were so overt that despite the absence of convulsions or basal signs that would make a diagnosis of meningitis indisputable it was decided to perform lumbar puncture. This was performed on June 24th, but no information was gained from the fluid withdrawn. Subsequently the patient's

* Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, May 24, 1912.

condition as regards temperature and pulse-rate improved till June 28th, from which time on he got progressively worse. On July 3rd, after a fairly good night, he got a rigor at 6 a.m., and complained of pain in his left side. His temperature fell from 104.2° the previous night to 99° . There was no vomiting. He resisted any attempts to flex the neck; his knee-jerks were sharp; Kernig's sign was marked, any attempt to extend the leg or the thigh beyond a right angle being met with marked hypertonus of the flexed muscles. On July 7th lumbar puncture was again performed, and a couple of c.c.s of very slightly turbid fluid were withdrawn drop by drop. The fluid examined by Dr. Hughes contained 1,100 leucocytes per c.m.m., two-thirds of which were polynuclear and one-third mononuclear cells. In addition, an occasional bacillus was found; the majority were intracellular. They averaged $.5\mu$ in breadth and 2.4μ in length. The organism grew in pure culture. It was motile, did not stain with Gram's stain, and did not form spores. It gave reactions characteristic of *Bacillus typhosus* on agar, broth, gelatin, and milk and in glucose, maltose, lactose, mannite and MacConkey's media. It was clumped by a 1 in 50 dilution of the serum of a rabbit which had been inoculated with typhoid bacilli. The patient died on July 8th. While in hospital he had developed no gastro-intestinal or other symptoms of typhoid other than those present on his admission.

The autopsy was made by Dr. Earl, who reported—Lungs show a very few scattered patches of broncho-pneumonia; heart normal; kidneys normal. In the intestine the lymphoid tissue is congested, but nowhere ulcerated; spleen quite normal. Meninges and the convexity of the brain are covered with a greenish-yellow exudate. Over the occipital lobes the exudate was hæmorrhagic. The bacillus separated from the exudate gave, under similar conditions, reactions identical to those given by the bacillus obtained by lumbar puncture.

That this case, then, was one of meningitis due to the *Bacillus typhosus* admits of no doubt. That the case was one of meningitis primarily, and not a mere complication of a common enteric fever, seems borne out by the *post-mortem* findings—the absence of ulceration in the intes-

tinal lymphoid tissue three weeks after the illness began and a fortnight after the agglutination test was positive: the absence of enlarged mesenteric glands, and the normal appearance of the spleen. But in the absence of a bacteriological examination of the stools during life and of the spleen and lungs after death this view cannot be positively maintained. In any event the case is a very unusual one, for though symptoms pointing to involvement of the nervous system—such as headache, backache, delirium and tremor—are of common occurrence in typhoid fever, the number of cases is small where actual inflammation has been demonstrated in the central nervous system or its ensheathing membranes. Thus Osler states that in two thousand Munich cases it was met with only eleven times, and in another place he records six instances of it in one thousand five hundred cases of his own observation. Curschmann, whose experience of typhoid was very great, records but five instances. Whether in all of these cases the meningitis was due to *Bacillus typhosus* alone, or to some other organism alone, or in combination with the *Bacillus typhosus*, we are unable to say, so these figures must be taken only as an indication of the rarity with which meningitis from any cause proves a fatal complication of typhoid fever. The cases we have found where the bacillus of Eberth was the sole cause of the inflammation are about fifteen in number, and the total number of cases probably does not exceed thirty.

In the majority of these cases the *post-mortem* findings were similar to those in the present instance—viz., congestion of the vessels of, and fibrino-purulent exudation on and between the meninges, more especially over the convexity of the brain, and microscopically a mononuclear and polynuclear cell infiltration of the perivascular tissue in the meninges and sometimes in the brain and cord also. In two cases (Hoffmann and Pictine) the inflammation was shown by congestion, œdema, and perivascular infiltration of small round cells; there was no pus. Three of Cursch-

mann's cases showed purulent inflammation, two showed only œdema and vascular congestion. Fritz—one of the earliest writers on this subject—writing in 1864 on spinal symptoms complicating typhoid, stated that no sign of meningitis or myelitis could be found in the majority of cases; in the minority was found at most a diffuse congestion of the spinal meninges. As far as this observation is positive it agrees fairly with later observations, in as far as it is negative it need not be allowed much weight, as it is quite likely that some of these cases would now be considered cases of so-called “typhoid spine,” a disease rather of the skeletal than of the nervous system, and, moreover, Schultze has shown that cases which show no lesion macroscopically often show considerable perivascular infiltration of mononuclear cells when examined microscopically. But, be this as it may, there is no reason to differentiate between the two findings; doubtless the purulent form is but a stage further advanced of the œdematous.

Contrary to what one might expect, the supervention of symptoms of meningitis is not a necessary fatal complication. In making this statement one is judging entirely from clinical records, and in the absence of bacteriological and cytological examination of the cerebro-spinal fluid a diagnosis based on less distinctly objective criteria is open to question; but in view of one case mentioned by Osler the others acquire considerable weight. The case was one in which a thorough examination of the cerebro-spinal fluid showed few pus cells, and typhoid bacilli which grew in pure culture. The patient recovered completely of his meningitic symptoms.

Symptoms of meningitis may occur at any time during the course of the fever—early or late. There is some evidence to show that the earlier they occur the better the prognosis. There is considerable evidence to show that women suffer more commonly than men. The symptoms usually last about four to twelve days; the longest case lasted three and a half weeks.

In submitting this brief summary we must not omit a

reference to Curschmann's case of ascending paralysis—Landr'y's disease—complicating typhoid, in which typhoid bacilli were found in the dorsal and cervical regions of the cord.

REFERENCES.

- (1) Adénot. *Lyon Médical*. 1894. No. 14.
- (2) Audibert. *La Semaine Médicale*. 1910. June 8.
- (3) Balp. *Rivista gen. Italian*. 1890.
- (4) Bernhardt. *Ber. klin. Woch.* 1886. No. 50.
- (5) Curschmann. *Verhand. des V. Congress. In. Med.* 1886.
- (5a) *Ibid.* Nothnagel's *Encyclopedia of Practical Medicine*, Typhoid. 1902.
- (6) Daddi. *Lo sperimentale*. 1894.
- (7) Fernet. *Bull. de la Soc. méd. des Hopitaux*. 1891.
- (8) Freyhan. *Deutsch. med. Wochen.* 1888. No. 31.
- (9) Fritz. *Étude clin. sur. div. symptom. spinaux observ. dans la fièvre typh.* Paris. 1864.
- (10) Hofman. *Deutsch. med. Woch.* July 12, 1900.
- (11) Hintze. *Centrablatt für Balt.* 1893.
- (12) Kamen. *Intern. klin. Rundschau*. 1890. 3 and 4.
- (13) Kühnau. *Berl. klin. Wochen.* 1896.
- (14) Mensi and Carbona. *Réforma medica*. 1893.
- (15) Ohlmacher. *Phil. Med. Journ.* Aug. 28, 1897.
- (16) Osler. *Principles and Practice of Medicine*. 1905.
- (16a) *Ibid.* Nothnagel's *Encyclopedia of Practical Medicine*. Typhoid. P. 271.
- (17) Pietine. *Archiv. de méd. exper. et d'anat. path.* 1894.
- (18) Stühlen. *Berl. klin. Woch.* 1894. 15.
- (19) Vincent. *Mercredi méd.* 1892.

ART. III.—*Clinical Report of the Rotunda Hospital for One Year, November 7th, 1910, to October 31st, 1911.*^a
By HENRY JELLET, M.D. (Dubl. Univ.), F.R.C.P.I., Master; and BETHEL A. H. SOLOMONS, M.B. (Dubl. Univ.), and DAVID G. MADILL, M.B. (Dubl. Univ.), Assistant Masters.

DURING the year ending October 31st, 1911, 2,241 patients were delivered under the care of the hospital in its extern department, and 2,608 patients were admitted to the maternity wards. Of the latter number 400 who were not in

^a Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, May 3rd, 1912.

labour were discharged undelivered, and 2,208 were delivered. Thus a total of 4,449 labours in all were attended by the hospital staff. Five deaths occurred in the extern department and twelve in the intern, being a percentage mortality of 0.22 in the former and of 0.54 in the latter, or a mean percentage mortality of 0.38. The number of deaths in the intern maternity has been above the average, and in this respect we have been unfortunate, since four patients were admitted in a moribund state and died a couple of hours later, and two were admitted in an acutely septic condition. On the other hand, there were three deaths from septic infection acquired in the hospital, all of which, so far as one knows, were preventable.

The most important event of the year has been the construction of the new labour wards—a work which, though not finished until well on in the present year, was initiated and far advanced during the period covered by this Report. I do not think that any of my predecessors has been under any delusions regarding the labour wards which have just happily passed away. These wards were established in the Mastership of Sir William Smyly, and constituted a very marked advance on the system which had been allowed up to that time. They were the best that could be made at the time owing to want of space, and they were just sufficient for the demands made on them. As the number of patients increased it became more and more obvious that they were too small. The year these wards were opened some 1,200 patients were delivered in them, while during their last year of work as labour wards 2,208 patients were delivered in them. The new wards that have been erected by the Governors are amply large to accommodate a considerable increase in the latter number, and in addition possess numerous advantages which it was impossible to give to the old wards owing to their cramped position. They have ample light and air; a good hot and cold water supply, with suitable basins and

sinks and hot and cold sterilised water ; an impermeable terazzo floor and walls ; and the means of isolating septic patients. The labour ward suite consists of a dressing-room with bathroom and lavatories, a large waiting ward, a large labour ward, a clerical room, a septic labour ward, and a kitchen. It is entirely separate from the rest of the hospital, and at the same time the patients after confinement can easily be taken to the lying-in wards. If the morbidity and mortality rates of the hospital are not directly improved, they can not at any rate be attributed to a defective labour ward system.

The only change of importance which I made during the year in the management of the hospital was in relation to the sitting up of patients in bed and to the time of leaving bed during the puerperium. On August 20th last I gave a general order in the following terms :—" All patients who have had a normal confinement without perinæal laceration and suture may be allowed and encouraged to sit up in bed after the first twelve hours. Further, they may get out of bed to pass water, if they wish to do so. After forty-eight hours they must get out of bed to pass water at least twice in the twenty-four hours, unless their general health contraindicates their doing so. Of this the Sister or the Assistant on duty will judge. After seventy-two hours they may take a few steps when they get out of bed, or sit for a few minutes on a chair or on their bed, the time they remain up being gradually increased each time they leave bed, so long as their state of health is satisfactory."

I do not think that we have had any reason to regret this change. So far as I know it has been entirely beneficial to the patients, who like it, and it has certainly reduced considerably the number of cases of lochial retention. If the morbidity rate for the two months after its introduction are compared with that for the previous ten months, a reduction of 1.7 per cent. is found—*i.e.*, 5.2 as compared with 6.9.

Eight cases of Cæsarean section were done during the

year. One of these was a *post-mortem* operation in the case of a patient who died during an eclamptic fit as a result of intra-peritoneal hæmorrhage. The foetus, however, was found in *rigor mortis*, and so had been dead for some time. A second was a radical Cæsarean operation on account of concealed accidental hæmorrhage complicated by intra-peritoneal hæmorrhage. Further particulars of this case will be found under the head of interesting cases. A third was a vaginal Cæsarean section, in a case in which delivery was necessary and the cervix was incompletely dilated. The operation was a simple one, as the cervix could be brought down to the vulva. I can, however, quite understand that this operation would be most difficult in a case in which the cervix could not be brought down, and might result in hæmorrhage which would be hard to control. The remaining cases were all done for contracted pelvis, and were satisfactory both in regard to the child and to the mother. Whenever it was possible I have always operated before the patient came into labour, and I have no hesitation in endorsing the modern opinion that this is the correct time to operate.

The use of vaccines has been considerably extended, and Table I. shows the number and nature of the cases in which they were used. We have been very favourably impressed by the results obtained in most cases, but in cases of established pyæmia vaccines do not appear to be of use. In streptococcal infections, on the other hand, the results may almost be described as positively good. Dr. Rowlette furnishes in the Pathological Report further information as to their use. (This Report will appear in the August number of the Journal).

Shortly after taking up office I discontinued the prophylactic use of nitrate of silver in the treatment of gonorrhœal ophthalmia, and substituted argyrol. My reason for doing this was that I doubted, and still doubt, the value of so strong a caustic as a prophylactic, and because I had had excellent results at Steevens' Hospital with

TABLE I.—*Nature of Infection and of Vaccine in Cases in which Vaccine was used.*

No. of Cases	Infection	Vaccine Used	Results	Remarks
14	<i>Streptococcus</i>	Lister Inst. 1 Rotunda stock <i>strepto.</i> 10 Do. and autogenous 3	Recovery , ,	In two cases serum was also given
6	<i>St. aureus</i>	Lister Inst. 2 Rotunda stock <i>staph.</i> 1 Autogenous 1 Rotunda stock <i>strepto.</i> 2	, Death Recovery 1 Recovery 1 Death	Pyæmia, <i>vide</i> Table XIII. Acute sepsis. Organism not discovered until after death. Had been mistakenly treated by <i>streptococci</i> , <i>vide</i> Table XIII.
1	<i>St. aureus</i> <i>Streptococcus</i> <i>B. Coli</i>	Rotunda stock <i>strepto.</i>	Death	Died of pulmonary embolus. Had advanced phthisis <i>vide</i> Table XIII.
1	<i>Pneumococcus</i> <i>St. aureus</i>	Lister Inst. - Do. -	- - Recovery	—
1	Saprophytes	Rotunda stock <i>strepto.</i> -	- Died	Putrid amniotic fluid and peritonitis from gangrenous appendix (M. K.), <i>vide</i> Table XIII.
7	Undiscovered	Rotunda stock <i>strepto.</i> 3 Lister Inst. <i>St. aureus</i> 1 Do. <i>strepto.</i> 2 Do. and Rotunda stock <i>strepto.</i> 1	Recovery " " "	—

argyrol. I was also very much influenced by the opinions expressed by Dr. Walker, of Liverpool, on the use of silver nitrate. He relates the results of 10,000 cases in which the eyes were treated by what he terms the "aseptic method," and of 2,000 cases in which they were treated by nitrate of silver—the antiseptic method. The percentage of cases of ophthalmia in the first group was half that in the second, and the percentage of cases of permanent injury was also about half. I think there is a great deal to be said for his contention that there is no germicide known to pathologists which is powerful

TABLE II.—*Number of Injections of Vaccine in each Patient.*

No. of Injections	No. of Cases	Results	Remarks
1	9	8 Recoveries	In the fatal case, the patient was suffering from gangrenous appendicitis, with purulent peritonitis, and putrid amniotic fluid when admitted
2	6	6 „	—
3	6	5 „	Fatal case was treated with streptococcal vaccine, infection subsequently shown to be staphylococcal
4	8	6 „	One death was due to pulmonary embolus, the other to pyæmia
6	1	Recovery	—

enough to kill one form of living tissue—the gonococcus, without causing grave peril to another form of living tissue—the human eye. To this I might add that no one would think of flushing out the peritoneal cavity with a one per cent. solution of nitrate of silver as a prophylactic in cases of possible general infection, and yet one without hesitation flushes out the entire conjunctival sac.

On the present occasion, however, the proportion of

cases of gonorrhœal ophthalmia appeared to increase after the introduction of argyrol, and so, and also because Dr. Crawley, the Consulting Ophthalmologist to the hospital, was opposed to its use, I returned to the nitrate of silver. Cases of ophthalmia, however, still continued, and we had one case which resulted in permanent injury to one eye. The use of argyrol is only a step to the aseptic method recommended by Dr. Walker, in that while there is still the introduction of an antiseptic capable of lowering the resistance of the corneal epithelium, such antiseptic is considerably less irritating than the nitrate of silver, and does not cause "silver catarrh." Whether it would not be better to abolish the use of antiseptics in all but infected cases is another matter, and is quite possibly the proper course. I mention the subject here because I should like to obtain the opinions of others.

The treatment of eclampsia has been continued on the lines introduced by Dr. Tweedy, with the exception that I always give chloroform during the washing out of the stomach and during any procedure that causes much stimulation of the patient. In doing this I am following the practice of Professor Stroganoff, whose results at any rate prove that the administration of chloroform for such purposes is certainly not harmful, and is probably beneficial. All the eclamptic patients recovered with the exception of two, who were brought into hospital moribund and died within a couple of hours.

There were a few cases of special interest which occurred during the year, and which call for special notice.

The first of these is a patient, M. M'D., who was sent up from the country in August last with a request that she should be admitted. She was brought up by a nurse who did not give us any information about her. The woman was up to full term, and apparently not in labour. There was nothing about her condition calling for special attention, and she did not volunteer any information except that she had been seen and examined by medical men before she came up. The next evening she did not appear to be so well, and

it was thought that she might be in labour. She was examined vaginally by the assistant on duty, who found the cervix dilated, the head presenting, and its descent impeded by a tumour growing beneath the vaginal mucous membrane posteriorly. Further questioning of the patient then elicited the fact that she had been in labour for several days before she came up, and that she had been examined about twenty times; that her pains had passed off, and that she had then been sent up to us. I saw the patient almost immediately, and found that the tumour was a myoma, which had apparently started in the cervix, and had then grown down behind the vaginal mucous membrane. I incised the latter, and shelled out the tumour in a moment without any difficulty. I then delivered the woman with the forceps, and, after removing the placenta, plugged the uterus and vagina so as to control all bleeding. The whole procedure only took a very short time, and there was no bleeding to signify. However, her temperature rose to 104.8° F. on the second evening, and remained high until her death from acute sepsis a few days later. I do not think that we are in any way responsible for the result.

The second case is one of a patient M.K., who was admitted on June 25th, 1911, at 7 a.m. She was then not in labour, and in apparently a satisfactory condition. At 6 p.m. it was noticed that her pulse-rate had risen to 100, and at 6.25 p.m. she was examined vaginally. The cervix was found to be closed, and the presenting part low down. There was no apparent abdominal distension, and, when the head was pushed up, no blood came away. There was no abdominal pain. I saw her a little later, and then her pulse had become still more rapid. It was obvious that she had internal hæmorrhage, and I decided to open the abdomen at once. On doing so I found the abdominal cavity full of blood, most of which apparently came from ruptured veins in the broad ligaments. I opened the uterus and delivered the child as quickly as possible. The uterus was also full of blood, and as quickly as possible I did a supra-vaginal hysterectomy. The patient's pulse at the beginning of the operation was almost 150, and she died just as I had closed the abdominal wound. The *post-mortem* examination showed the abdominal cavity full of blood (*v. Pathological Report*).

The third case presented somewhat similar features. A patient J. S., was admitted in January, 1912, with a history of three eclamptic fits before admission. She had another fit after admission, and the usual treatment was carried out. Shortly after this she became collapsed, and respiration ceased. It was thought at the time, as I think very probably happened, that she had had another fit, and that respiration ceased during it. Her pulse rapidly became worse, and finally became imperceptible. Artificial respiration was performed, and stimulants, &c., were administered without result, and it gradually became apparent that she was dead. I thought that it would probably please the friends if I delivered the child, and so I did a *post-mortem* Cæsarean section without much hope of saving it. On opening the abdomen I found it contained sufficient blood to account for her rapid death. The *post-mortem* examination showed that the blood had come from a ruptured mesenteric vein. The fœtus was in a state of rigor mortis.

The last case is one of ruptured uterus. A woman, M. F., was admitted in May. Her previous children had been delivered dead with the forceps. The true conjugate measured 8 cms., the transverse diameter of the brim 12.9 cms. Labour began at 3 30 p.m. At 10 p.m. the head was apparently fixing, the membranes were intact and bulging, and the os was fully dilated. The temperature was normal, but the pulse was 140. I do not think I heard anything of the case until an hour later, when her temperature was 97° F., and her pulse the same rate. The fœtal heart could not be heard, and so I decided to perforate the head. The membranes were still intact, and when I ruptured them some meconium escaped, and practically no liquor amnii. Perforation was performed with difficulty owing to the density of the cranial bones. I could not apply the blades of the cranioclast satisfactorily to the head, and while trying to do so I found the placenta lying free in the uterine cavity. The uterine muscle was not contracted, and the fœtus could be moved easily, and was in no way held by the muscle, so I performed version and delivered the child. I then passed my hand into the uterus to examine it, and found a tear in the lower uterine segment extending into the peritoneal cavity. There was no evidence of any intra-uterine hæmorrhage, and the pulse was

no worse. Accordingly I plugged the uterus and vagina with iodoform gauze. The catheter was passed and a little blood drawn off from the bladder. The next day the uterus was douched out gently, the douche can being almost at the level of the bed. The third day the patient showed signs of intestinal obstruction, and was seen by Mr. Heuston, who opened the abdomen and found a band stretching from the uterus to the omentum, and compressing a loop of bowel. The uterus was at the pelvic brim, and apparently normal. He consequently did not examine it further, and so did not see the rupture. The patient made an interrupted recovery. I had to leave home the day after the rupture occurred, and I am greatly indebted to Dr. Purefoy and Mr. Heuston for seeing the patient in my absence, and for bringing her so safely through a very dangerous complication.

During the past year 604 patients were admitted to the Gynæcological Department, a number which is I think the largest since the Gynæcological Wing was built. There were 511 operations performed, with a total mortality of eight—*i.e.*, 1.32 per cent. Of the eight deaths, seven occurred in patients suffering from malignant disease, and of these one was from pneumonia, which started twelve days after an exploratory laparotomy in an inoperable case; one from secondary hæmorrhage occurring twenty days after the operation; one from general peritonitis in a case of extensive rectal cancer with tubal adhesions; one from heart failure a week after operation; one from collapse directly after operation; one from pulmonary secondary growths in a case of chorion-epithelioma; and one from mitral disease after the patient had been up and about in a case of epithelioma of the vulva. The eighth death occurred from heart failure five days after a prolapse operation in a patient who was found *post-mortem* to have a very fatty heart.

The tables of prolapse operations show that I have performed Wertheim's interposition operation on eight occasions, both alone and in association with my own method of shortening the utero-sacral ligaments. I have

never had an opportunity of bringing the latter operation before the Academy, and this is not the place to describe it. It is a modification of the operation which Wertheim introduced and uses in association with his interposition operation, and I prefer it, since, if necessary, it can be done extra-peritoneally, and since it is apparently easier. I have never performed Alexandroff's operation of shortening Mackenrodt's ligaments instead of the utero-sacral ligaments. Theoretically I think it is inferior to the utero-sacral operation, not because the ligaments are any less strong, but because it is necessarily more difficult to pull taut ligaments running transversely in the pelvis and exerting a lateral pull on the cervix than to pull taut ligaments running vertically and exerting a pull straight upwards. Moreover, I have been very much impressed by the fact that while my predecessor, Dr. Tweedy, acted as sponsor for Alexandroff's operation in Great Britain in 1905, he never—so far as I can learn from his reports—performed the operation subsequently during his Mastership. Dr. Tweedy is an excellent judge of the practical value of an operation, and seeing that he dropped it so completely, although after his paper it was described in text-books and other places as his own operation, I cannot help thinking that it must be either difficult or inefficient. Utero-sacral shortening, on the other hand, whether done by Wertheim's method or mine, has been proved to be easy and most satisfactory in its after-results. I think, therefore, that until some considerable statistics of Alexandroff's operation are attainable I shall continue to practice the alternative operation. In regard to interposition of the uterus, I can only say that I have found it a most valuable procedure for the cure of prolapse, but that it is only permissible in the case of women who are past the childbearing period, unless at the same time the tubes are tied and partially excised.

Finally, I wish to take this opportunity of placing before you—the representatives of the Dublin School of

Midwifery—the fate which overhangs the School, as provided by the Insurance Act of 1911. All the hospitals of the Kingdom have been gravely exercised by the consequences for them with which this Act is fraught, and with cause, since under it voluntary hospitals will be reduced in income, in prestige, and in efficiency. This, however, is a small matter in comparison with the fate which awaits maternity hospitals. They will in future require neither income, prestige, nor efficiency, since, by a carefully devised system of penalties, parturient women will be kept from seeking the aid of either their intern or extern departments, and where there are no patients there can be no hospitals. Every woman whose husband is insured, and who enters a hospital for her confinement, will under the Act directly lose thirty shillings, and, if she is insured herself, she will lose three pounds. Every woman who is attended during her confinement by a student or pupil nurse from a maternity hospital will lose a similar amount.

The Chancellor of the Exchequer has enacted that “no payment shall be made on account of sickness, disablement, or maternity benefit to or in respect of any person during any period when the person to or in respect of whom the benefit is payable is an inmate of any work-house, hospital, asylum, convalescent home, or infirmary, supported by any public authority, or out of any public funds or by a charity, or voluntary subscriptions, or of a sanatorium or similar institution approved under this Part of this Act.” Translated into common language, this means that any woman who is an inmate of any hospital during labour forfeits her maternity benefit, and her sick benefit if she is entitled to one. Furthermore, the benefit is payable only if the woman is attended during her confinement by a registered medical practitioner or midwife having such qualifications as may be prescribed, and apparently neither the hospital student nor the pupil nurse will come into either of these classes. How many women are there who are attended by the staff of an Irish

hospital who would continue to be so attended if it implied a loss of thirty shillings—a sum which for numbers of them equals the greater part of the whole receipts of the household for a fortnight ?

What will be the result of Mr. Lloyd George's efforts to prevent and cure sickness by these means ? The immediate result will be the destruction of maternity hospitals and extern maternities throughout the Kingdom. Coincident with this will come an enormous increase in the morbidity and mortality of childbed amongst the poor, and also the cessation of all organised obstetrical teaching for medical students and pupil midwives. Ultimately, the entire female population—and not merely the poorer classes—will be dependent for assistance during childbirth on persons who have never had an opportunity of receiving what we now consider proper teaching even in the elements of this branch of their profession. It took many generations of wise administrators, charitable individuals, and skilful medical practitioners and teachers to build up the School which Mr. Lloyd George has apparently destroyed in a single night by an Act which announces itself as intended for the prevention and cure of sickness.

I have had the opportunity, as one of a deputation on behalf of the Dublin Hospitals, of laying my views before the Insurance Commissioners, and I made to them two suggestions, which, if practicable, and if acted upon, would have the effect of obviating the danger of the destruction of the maternity hospitals. The first of these suggestions was, that the poor should be given to understand, that under Section 12 (2) (a) of the Act the maternity benefit, or a considerable part of it, would be given in all cases to their dependants whenever the woman entered a maternity hospital for her confinement. My second suggestion was that women attended by students and pupil midwives in the extern department of a recognised hospital, under the supervision of the medical staff of the hospital, should be considered to be,

for the purposes of the Act, attended by registered medical practitioners or certified midwives. The Commissioners at the time I write are considering these suggestions, and perhaps I may be able to add their opinions on the matter at the time this report is laid before you.

I make no excuse for departing somewhat from the stereotyped character of a report in order to bring this subject before you. One has the general impression that lawyers can drive a coach and four through any Act of Parliament, and it is just possible that they may be able to prevent this Act—which is begotten of lawyers—from travestyng the intentions under which it was passed. If this is to be done, however, immediate action is necessary, and the first steps in such action must lie with the Dublin maternity hospitals and the Obstetrical Section of the Royal Academy of Medicine. This Section was not idle in the past when the interest of the Irish School of Midwifery was threatened, and it is not well that it should remain passive now when not alone the Irish, but the whole British School of Midwifery, is faced by a danger greater than any with which it has been faced since maternity hospitals first were started.

THE STANDARD OF MORBIDITY.

The following is the definition of morbidity as laid down by a Special Committee of the British Medical Association:—"A temperature is to be regarded as morbid which reaches F. 100° on any two occasions between the beginning of the second and the end of the eighth day. All deaths are to be included as morbid, irrespective of temperature; and, as some maternity hospitals do not admit abortions, these, for the sake of uniformity, are eliminated from the morbid statistics. The temperature is to be taken in the mouth twice daily, as close as possible to the hours of 8 a.m. and 5 p.m."

APPENDIX A.

STATISTICS OF THE MATERNITY DEPARTMENT.

EXTERN DEPARTMENT.

TABLE I.—*Nature and Number of Cases Treated.*

Total Deliveries	-	-	2,241	Operations— <i>con.</i>		
Presentations—				Forceps	-	36
Vertex	-	-	1,930	Version	-	21
„ Face to pubes	-	-	5	Suture of perineal lacerations	-	132
Face	-	-	5			
Brow	-	-	1	Maternal mortality	-	5
Breech	-	-	69			
Transverse	-	-	11	Infantile mortality—		
Twins	-	-	31	Recent	-	51
Triplets	-	-	1	Macerated	-	14
Hydramnios	-	-	6			
Abortions and Miscarriages			253	Fœtal abnormalities—		
Hæmorrhages				Anencephalus	-	2
Unavoidable	-	-	9	Spina bifida	-	2
Accidental	-	-	2	Hare-lip	-	1
Post-partum	-	-	14	Cleft palate	-	1
Operations—				Fœtus papyraceus	-	1
Manual removal of				Talipes	-	1
placenta	-	-	24	Exomphalos	-	1

TABLE II.—*Mortality.*

Name	Age	Para	Date of Delivery.	Cause of Death	Time Ill	REMARKS
M. H.	34	V.	1911 Jan. 22	Sepsis and pulmonary embolism	24 days	—
A. N.	27	I.	April 13	Chronic cardiac disease	Died immediately	—
M. C.	36	XIII.	May 12	Septic pneumonia	2 months	—
M. R.	34	III.	May 29	Post-partum hæmorrhage	Died immediately	Moribund on arrival of assistant. History of cardiac trouble
B. K.	25	III.	Sept. 21	Septic infection	9 days	Patient refused douching, and had been discharged

INTERN DEPARTMENT.

TABLE III.—*Total Admissions and Deliveries.*

—	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
Total deliveries -	168	177	192	161	186	182	223	196	191	194	177	161	2,208
Patients admitted not in labour -	17	34	32	21	39	39	40	38	47	32	35	26	400
Total admissions	185	211	224	182	225	221	263	234	238	226	212	187	2,608

TABLE IV.—*Nature and Number of Cases Treated.*

Total admissions - - -	2,608	Accidental complications—	
Total deliveries - - -	2,208	Epilepsy - - -	1
Primiparæ - - -	724	Phthisis - - -	1
Multiparæ - - -	1,484	Mvomata of uterus - - -	3
		Edema of vulva (renal) - - -	2
		Syphilitic stenosis of vagina - - -	1
Presentations—			
Vertex, normal rotation - - -	2,056	Eclampsia - - -	14
„ face to pubes - - -	16	Insanity - - -	1
Face - - -	10	Crural phlegmasia - - -	2
Brow - - -	7	Mastitis - - -	3
Breech - - -	45		
Transverse - - -	14	Operations—	
Twins - - -	29	Pelvimetry - - -	26
		Induction of labour and miscarriage—	
Complications of Pregnancy—		for missed labour - - -	2
Hyperemesis - - -	3	„ „ miscarriage (6 months) - - -	1
Vesicular mole - - -	3	„ „ hyperemesis - - -	1
Hydramnios - - -	3	Episiotomy - - -	10
Abortions and miscarriages - - -	86	Incision of cervix - - -	2
		Impacted shoulders (extraction of) - - -	3
Hæmorrhages—		Cleidotomy - - -	1
Unavoidable - - -	10	Suture of perinæal lacerations—	
Accidental, external - - -	4	Complete - - -	2
„ „ internal - - -	2	Incomplete - - -	602
Post-partum - - -	43	Suture of cervical lacerations - - -	8
„ „ internal traumatic (hæmatoma vulvæ) - - -	2	Myomectomy (vaginal) - - -	1
		Forceps - - -	114
Lacerations of genital tract—		Version - - -	24
Perinæum - - -	604	Cæsarean Section—	
Cervix (serious) - - -	8	Abdominal conserva-	
Uterus (complete rupture) - - -	1	tive (classical) - - -	5
Contracted pelvis - - -	19	Abdominal, post-mortem - - -	1
		„ „ radical - - -	1
Placental abnormalities—		Vaginal - - -	1
Adherent - - -	18	Pubiotomy - - -	2
Retained (non-adherent) - - -	3	Craniotomy - - -	2
Prævia - - -	10	Decapitation - - -	2
Battledore - - -	9	Evisceration - - -	1
Succenturiate - - -	1	Manual removal of placenta - - -	22
		Intestinal obstruction - - -	1
Abnormalities of cord—			
Velamentous insertion - - -	3	Morbidity (B. M. A. standard)—	
Prolapse - - -	16	Average - - -	1 in 15 .04
Presentation - - -	1	Percentage - - -	6.64

TABLE IV.—*Nature and Number of Cases Treated.*—*con.*

Mortality—				Fœtal abnormalities— <i>con.</i>			
Total	-	-	12	Anencephalus	-	-	1
Average	-	-	1 in 184	Cleft palate	-	-	1
Percentage	-	-	0.54	Cystic hygroma	-	-	1
Infant statistics—				Hare lip	-	-	1
Total births	-	-	2,151	Hydrocephalus	-	-	2
Alive	-	-	2,075	Multiple nævi	-	-	1
Dead	-	-	76	Pseudo-hermaphroditism	-	-	1
Premature	-	21		Spina bifida	-	-	1
Full term—				Supernumerary thumbs	-	-	2
Recent	-	22		„ toes	-	-	2
Macerated	-	31		Talipes	-	-	2
Putrid	-	2		Webbed fingers	-	-	1
Children born alive who died in hospital	-	27		„ toes	-	-	1
Total born dead or died in hospital	-	103		Infantile complications—			
Fœtal abnormalities—				Cephalhæmatoma	-	6	
Absence of cervical vertebræ	-	-	1	Cerebral hæmorrhage	-	1	
				Fractured clavicle	-	1	
				Hæmorrhage from cord	-	1	
				Icterus	-	2	
				Ophthalmia	-	11	

TABLE V.—*Pelvic Presentations.*

Para	Total	Dead Children		REMARKS
Primiparæ	17	Recent	1	Two were associated with prolapse of cord. Three occurred in twin pregnancies. One was premature.
		Macerated	1	
		Total	2	
Multiparæ	28	Recent	1	{ Seven occurred in twin pregnancies. One had fractured clavicle.
		Macerated	1	
		Total	2	
Totals	45	Total	4	

TABLE VI.—*Twins.*

Both males	-	-	-	15
Both females	-	-	-	5
Male and female	-	-	-	9
Total	-	-	-	29

(To be continued.)

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

History of the Medical Teaching in Trinity College, Dublin, and of the School of Physic in Ireland. By T. PERCY C. KIRKPATRICK, M.D., M.R.I.A. : Fellow and Registrar of the Royal College of Physicians of Ireland. Dublin : Hanna & Neale. 1912. Demy 8vo. Pp. xi + 364.

For all Irishmen, whether at home or abroad, and particularly for the citizens of Dublin, this handsome volume must possess a lively interest. Its pages tell in graceful language the story of a famous Medical School, which, having survived the changes and chances of two hundred years, is entering upon its third Century with all the zeal and energy of perennial youth.

The writing of "The History of the Medical Teaching in Trinity College, Dublin, and of the School of Physic in Ireland" could not have been entrusted to more competent hands than those of Dr. Percy Kirkpatrick. The author had already established for himself no mean reputation as a medical historian, and no one was better qualified than he to undertake the laborious research involved in preparation for the task set before him—in his own words :—"My chief object has been to present an accurate narrative of the events in the history of the School and in the lives of those who have been responsible for its management."

In an introductory chapter the author carries his readers back to primeval times, for he quotes the "Code of Laws" promulgated by Hammurabi, King of Babylon, who flourished B.C. 2285-2242. Then, after a brief allusion to Machaon and Podaleirios, sons of Asclepius, the son of Apollo, and to Hippocrates and Celsus as representing

Greek and Roman Medicine respectively, Dr. Kirkpatrick gives an interesting, if traditional, account of the condition of Medicine in Ancient Ireland based on the writings of Mr. Eugene O'Curry, M.R.I.A., Mr. (afterwards Sir William R.) Wilde's "Report on the Tables of Deaths" in the Irish Census of 1851 and the "Brehon Laws."

In subsequent chapters Dr. Kirkpatrick sketches with facile pen the early history of Trinity College, the establishment of Trinity Hall—the birth-place of the Irish College of Physicians, the history of this College in the closing decades of the seventeenth century and of its famous President, Sir Patrick Dun, and the foundation in 1711 of the Medical School, the bicentenary of which is to be celebrated in the present month.

And so the story of the School of Physic in Ireland goes on through the eighteenth and nineteenth centuries, the last three chapters dealing in sequence with medical legislation, the School staff, and the vast modern development of the School.

A characteristic feature of the volume is its wealth of biography. Its pages contain more or less detailed life-histories of nearly all the men associated with the School during its long and eventful career. As a biographer Dr. Kirkpatrick has no living Irish compeer, and what is especially to be admired in his biographies is their transparent frankness, candour, and truthfulness.

Amongst the most noteworthy biographies are those of Dr. John Stearne, the founder of the Irish College of Physicians (in 1654), who in his published works styled himself "M. & J. U. D.," or "*Medicinæ et Juris Utriusque, Doctor*"; of George Cleghorn, who was appointed "Anatomist" on July 14, 1731, and "who in his thirty-six years' service had spread the fame of the School through the length and breadth of the land, and who had attracted to his teaching students from beyond the seas"; of James Macartney, the great anatomist, "whose name must ever be remembered with honour in Trinity Col-

lege''; of Whitley Stokes, '' who, besides being Medicus [*i.e.*, Medical Fellow of Trinity College], had held the King's Professorship of the Practice of Medicine from 1798 to 1812''; of Robert James Graves and William Stokes, '' two of the most distinguished men to be found in the long roll of Irish physicians.'' As the author justly observes (page 277) :—'' The names of Graves and Stokes are written large on the pages of Medical History, and the reputation of the Dublin School owes to these two men a debt the extent of which it is difficult to over-estimate.''

The '' History '' is singularly free from misprints or other errors. At page 324 '' William Porter '' should be '' George Hornidge Porter, '' and at page 285 we are at a loss to know why the author uses the phrase '' the English Parliament '' for the Imperial Parliament.

There are only three illustrations—a frontispiece showing some of the School buildings in the present year, a drawing of the College Library and old Anatomy House in 1753, and the Medical School which was opened in 1825. It is a pity that portraits of some of the old worthies mentioned in the text have not been included.

In conclusion, it gives us much pleasure to state that Dr. Kirkpatrick's record of the teaching of Medicine in Trinity College, Dublin, and of the School of Physic in Ireland is in every respect worthy of the memorable occasion which has led to its publication.

—'' Annos

'' Bis centum vixi. Jam tertia vivitur ætas.''

Post-mortems and Morbid Anatomy. By THEODORE SHENNAN, M.D., F.R.C.S. Edin.; Pathologist to the Royal Edinburgh Infirmary, &c. London: Constable & Co. 1912. Large 8vo. Pp. xv + 496.

DR. SHENNAN'S book is, we believe, a new departure in English pathology. He deals exclusively with the normal and pathological *post-mortem* appearance of the viscera, describing their macroscopic appearance in detail. The author has altogether confined himself to morbid anatomy,

and has left the field of ante-morbid pathology untouched. The book is freely illustrated (207 illustrations, with 10 coloured plates), and the illustrations alone would render the book of great value to the pathologist and clinician. The pictures are nearly all photographs of specimens in the Edinburgh Museum, and are so good that they need no description for their identification.

The majority of these illustrations represent the more common pathological conditions, and in this they are all the more useful to students and practitioners. The text is clearly written, and not too discursive; it represents the author's own experience, and is not culled from previous text-books of pathology. The bones and joints are accorded more adequate treatment than usual. The early chapters deal with the technique of *post-mortem* examinations; they contain many useful hints; the precautions necessary for the safety of the operator are carefully considered.

The cavities of the body are considered in turn; as each viscus is dealt with, its removal, method of examination, normal size, appearance, and characteristics are mentioned. This is followed by a clear and concise account of the more common pathological conditions to which the viscus is subject.

The final chapter is an important one, for in it the author puts forward the appearances found in cases of poisoning. An appendix gives a short account of the best methods of fixing and preserving specimens in their original colours.

The index is worthy of the work, and makes the volume as useful and valuable a book as any practitioner might want to possess.

The Sexual Life of the Child. By DR. ALBERT MOLL.
Translated from the German by DR. EDEN PAUL.
London: George Allen & Co., Ltd. 1912. Demy
8vo. Pp. x + 339.

THE appearance of this very remarkable—and very instructive—volume in an English dress may probably be

looked upon as one of the significant signs of the times : of the *forward* movement of human thought, of the circumferential expansion of *philosophic* movement, and of the general diffusion of equalising education among the members of the rising generation in the various communities of our occidental enlightenment. We can only fancy the sensation which would have been made in the years of our own medical curriculum by a suggestion of the general—undiluted and unfiltered—training of the riper stages of infancy, and the whole period of puberty and adolescence, in the theoretical mysteries of sexual life, and the myriad problems therewith associated. Indeed, the present existing contrast of the respective national practices of the British and German Empires is clearly indicated by the *Publishers' Note* which is judiciously inserted within the shadow of the front cover : “The sale of this book is limited to Members of the Medical, Scholastic, Legal and Clerical professions.” Not thus are things ordered in the more progressive and more rapidly advancing communities of the *Vaterland*.

The enormous quantity of detail and of discussion which is found included in the present encyclopædic manual makes it utterly impossible to attempt a critical examination in detail. Also, it would be, from any point of view, wholly unnecessary. And the only general opinion of which the enunciation must be made, as a part of the reviewer's dutiful statement of his estimate of view-point and treatment, is an appreciation of the author's fulness of his subject, and the comparatively exhaustive discussion to which he has subjected the same. The writer is, in this instance, a master of his chosen task, and an enthusiast in the thoroughness of his labour. He has *generalised* the *specialism* of his subject, and has gleaned from the harvests of all other cultivators. Indeed, the prefatory *apologia* of the present volume opens with the observation that—“The advance of sexual science as a whole has not been proportionate to the extent of those contributions.” In order to fill in the fissures and complete the community, Dr. Moll has devoted himself to the

continuous culture of his department. The result is one which will, perhaps, surprise most British readers—who have not embraced the great opportunity afforded by a visit to the Dresden Exhibition of Hygiene in the past year. The other professions may be left to judge for themselves (with the help of their leading lights); we will take the opportunity of answering for our own that :—No medical man can afford to ignore the existence of the volume now before us, or (conscientiously) neglect to make himself familiar with its contents.

Leprosy and its Treatment. By PANDIT KRIPÀRAM SARMA Third Edition. Printed by N. L. Nundy, at the Universal Press, 27 Ramkrishnapur Ghat Road, Howrah. Published by the Author, 8 Nandi Bagan Lane, Salkea, Howrah. 1911.

OUR opinion of this book was freely expressed in a notice of the first edition which appeared in the number of the Journal for December, 1911 (Vol. CXXXII., page 442).

We were glad to have an opportunity of again perusing Mr. Sarma's (large-type, liberally-leaded) paper-covered volume—for its text offers manifold view-points of novel tinct and (momentarily) arresting aspect, and we floated blithely along its buoyant waves. There is a series of illustrative plates, mostly of specimens of the disease and its marvellously successful treatment by the author—the first being a portrait of a healthy late Pandit, and the second of the author himself. It is dedicated “to Baba Shishir Kumar Ghone,” and the author assures his friend that :—“My dear Baba—You will like the book, not because it is well written but because it contains useful information regarding the disease Leprosy, my cures and the cured. It will gladden your heart, dear father, to know that I have been, to some extent, successful in convincing my people that Leprosy, like all other diseases, has a cure, too. . . . My father taught me his treatment as a father should do, but you have showed me a ladder and with affectionate care helped me on to ascend higher

and higher. . . .” And the author tells us in the body of the volume that his “father, who was a reputed physician of his time, was a wealthy, pious, and kind-hearted man.” Later he quotes a paragraph from the *Amrita Bazar Patrika*, in which the editor had “sought to describe my humble self in his own light.” “Father Damon (*sic*) made himself deservedly celebrated throughout the world by his unexampled philanthropy. He tended lepers cast off by humanity, caught the disease himself, and died of it. From this point of view Pandit Kripārām, the leprosy-curer, is a far greater philanthropist than even Father Damon was. He, too, tended hundreds of lepers and caught the contagion, but he cured himself by his own treatment. He is the only man in the world who claims to have found out a cure for leprosy. He has no specific for the disease, but a treatment which is very much certain.” This corroborative statement of therapeutic fact cannot fail to interest all directly concerned!

With regard to pathology we learn that: “This dreadful disease according to our ‘Shastras’ is originated by the irritation and perversion (*lit.* angry) of the ‘bayu’ (*lit.* air) nervous system, the pitta or bile, and the ‘kafa’ or phlegm of the human system caused by various reasons.” And we are prepared for the reception of the author’s therapeutic statement:—“The drugs which I use are all shastric, and my father has added some by discovery.” One of the latter is “*Rudrabanti*, which has been found to be efficacious in curing eruptions in the body.” Three prescriptions are presented “for internal use,” one for an “oil for rubbing,” one “for external application,” and yet another “for bathing.” But the names (as well as things) are eminently “shastric”; and no proportions are given, and no selective instruction—so that the author’s clinical practice remains as much of a mystery as his dearest friend could desire. And readers must admit that his pathology—as accounted for in above quotation—is suggestive of the alchymy of Basil Valentine and of Bombastus Paracelsus. So that the candidate for his *shastric* treatment must needs take his ticket to the

station most nearly adjacent to the *Salkea Leper home*—which is Pandit Kripàrām's own hospital. (And we cannot refrain from mentioning, parenthetically, in conclusion, the author's affirmation that—"Syphilis and gonorrhœa are prominent causes in many cases of leprosy.") And any of our curious readers may take a flying visit there—if the volume before us inspires sufficient curiosity, or sufficiently discounts their reasoning intelligence and its practical application.

Tuberculin Treatment. By CLIVE RIVIERE, M.D. Lond., F.R.C.P., Physician, East London Hospital for Children, Shadwell; and EGBERT MORLAND, M.B. & B.Sc. Lond., M.D. Arosa, Switzerland, Visiting Physician to the English Sanatorium, Villa Gentiana. Oxford Medical Publications. London: Henry Frowde, and Hodder & Stoughton. 1912.

THE authors of this book have succeeded in producing an extremely complete manual on the subject of tuberculin treatment. In our opinion, indeed, the work is too complete; for we fear that the average medical man who, desirous of starting tuberculin treatment in his practice, procures this book as a guide, will rather be frightened off the subject by its complexity as here portrayed than encouraged to proceed. A book with half the information given in a readable way would, we believe, be far more useful, though perhaps it would not add so much to the reputation of its authors. We frankly confess that the elucidating diagram at page 6, almost at the very beginning of the work, rather led us to fear that the perusal of the book would be somewhat tedious, and this fear was increased as we got deeper into the text. There is also a want of dogma, and although this is doubtless the fault of the subject it is nevertheless rather annoying to the reader on the look out for definite directions. Having said so much we must now add that the work bears evidence of having been written by men who are thorough masters of their subject in all its details. Ample

references prove a complete knowledge of the literature, and the explanation, on a scientific basis, of the existence of two schools of tuberculin therapy is most satisfying. The tuberculin notation adopted is a good one, and the table of equivalents is very useful for reference.

In conclusion, we may add that any one who intends to take up the use of tuberculin systematically on a big scale will find this book most useful as a guide and for reference when difficulties are encountered. For the more general reader a shorter second edition, written in an easier style, would, we believe, be more acceptable.

The Nervous System: An Elementary Handbook of the Anatomy and Physiology of the Nervous System. For the use of Students of Psychology and Neurology. By JAMES DUNLOP LICKLEY, M.D. London: Longmans, Green & Co. 1912. Pp. xii + 130.

DR. LICKLEY has compiled an excellent short account of the essential features of the anatomy and physiology of the nervous system. He has managed to write sufficiently simply to be understood by non-medical students of psychology. This was his aim, but he has done more. His book will be a great help to junior medical students who are struggling for the first time with the intricacies of the central nervous system. To all such the book will be welcome. They will find it more interesting than an anatomical text-book of the normal type, which too often presents to the consideration of its reader so great a number of apparently unconnected details that it is a miracle if the beginner who tackles it escapes mental indigestion and is able to see or think of anything but the trees. To the reader of this book the idea of the word is continually presented.

Of illustrations there are one hundred and eighteen, all good, and all, or almost all, old friends. They are the surviving fittest of many thousand neurological illustrations that have been; they are aristocrats of unimpeachable respectability and authenticity: Grays, Quains,

Testuts, van Gehuchten, Poiriers, Schwalbes, Bourgeries, Cajals, Kollikers, Biedermanns, Andriezens, Fosters, Schäfers, Ruffnis—a most representative collection. In their new guise they are as satisfactory as ever.

Dr. Lickley may be congratulated on the success which has attended his labours.

Clinical Methods: a Guide to the Practical Study of Medicine. By ROBERT HUTCHISON, M.D., F.R.C.P., Physician to the London Hospital, and Assistant Physician to the Hospital for Sick Children, Great Ormond Street; and HARRY RAINY, M.D., F.R.C.P. Ed., F.R.S.E., Assistant Physician to the Royal Infirmary, Edinburgh. Fifth Edition, revised throughout. London: Cassell & Co. 1912. Cr. 8vo. Pp. xii + 656.

SINCE we reviewed the fourth edition of this deservedly popular text-book in November, 1908 (Vol. CXXVI., No. 443, page 378), that edition has been twice reprinted—in October, 1908, and November, 1910. And now in May of this year a new and thoroughly revised edition—the fifth in less than fifteen years—makes its appearance. Such facts would disarm hostile criticism, even were it called for.

In their preface to the present edition the authors gracefully acknowledge their indebtedness to Dr. P. N. Paxton, with whose aid the chapter on the blood has been almost entirely remodelled; to Drs. Lovell Gulland, Martin Flack, and Gordon Holmes, for much advice and help in recasting the chapters which deal with the respiratory, urinary, and nervous systems respectively; and to Dr. James Ritchie, who has contributed Chapter XIV. on "Clinical Bacteriology." The section in Chapter III., which deals with the investigation of the gastric functions, is essentially new in its present form.

The book is very fully illustrated, but we have again to express our regret that the drawings illustrative of the

microscopical characters of urinary deposits have not been thrown into the form of plates and coloured. A coloured plate of the spectra of hæmoglobin and its derivatives also would be a great improvement on the diagram on page 240. The volume does, however, contain twelve beautiful colour plates.

Sahli's Tuberculin Treatment. By DR. HERMANN SAHLI. Translated from the third German edition by W. B. CHRISTOPHERSON, with an Introductory Note by EGBERT MORLAND, M.B. London: John Bale, Sons & Danielsson. 1912. Demy 8vo. Pp. viii + 198.

THE author states that "the object of this book is to give the practitioner a correct standpoint from which to consider the important question of tuberculin treatment proceeding from which he can make personal trial of tuberculin and use it for the benefit of his patients without any risk."

We may say at once that in our opinion this object is attained. The book is divided into two parts—viz., I. a Practical Part; II. a Theoretical Part. In Part I. are discussed the choice of tuberculin (the author strongly advocates Béraneck's), the choice of the case to use it on, the adaptation of the treatment to the patient, the signs of the reaction of the patient to the treatment, &c.

There are two passages in this part with which the present reviewer is especially in agreement.

The first, on page 28 :—"I believe that there is a great future for a mild tuberculin treatment . . . in the possibility of a kind of prophylactic treatment of the very early cases, and I consider it is destined to play just as valuable a part as vaccination in the fight against small-pox."

The second, on page 73 :—"Of the cases favourably influenced by tuberculin treatment complete cure is unfortunately only obtained in a small section—the earlier ones."

In Part II. are discussed the nature and action of tuber-

culin, of immunity to tuberculosis, and cure of tubercular infections. The discussion of the intricate problems involved is a masterly one. The author considers that the protein of the tubercle bacillus is the active principle of all tuberculins, and that they differ from each other only in the quantity of this present and in the presence or absence of other non-specific but deleterious substances. He considers that in Béraneck's tuberculin we have the tuberculo-protein in its purest form. The lipid content of the tubercle bacillus is not mentioned or discussed—a serious and curious omission.

The book is a fine product of a clear and practical mind, and is excellently translated. It is a book to be read and re-read.

First Aid. By SIR JOHN COLLIE, Kt., M.D., C.M., J.P., Aberdeen, Knight of Grace of the Order of St. John of Jerusalem in England, &c.; and C. F. WIGHTMANN, F.R.C.S. England, Lieut. (late Surg.-Lieut.) 1st Batt. Herts Regiment, &c. Sixth Edition. 60th Thousand. Copyright. London: George Gill & Sons, Ltd. 1912. Pp. 188.

MESSRS. GEORGE GILL & SONS have forwarded for review a copy of the new edition of "First Aid" as now used by the London County Council in their schools. It is also the official book of the St. Patrick's Ambulance Association, and for this reason should be of more than passing interest to our readers.

The new edition has been extended by thirty pages, and the following points in it may be noted:—

The stretcher exercises (pages 153-166) have been revised and brought into harmony with the 1911 R.A.M.C. suggestions. A table of cases of insensibility has been added (p. 107a). The roller bandage, as being more efficient than the old triangular bandage, has been fully treated (pages 126-133). A short chapter (pages 176-180) on voluntary aid detachment work has been very wisely introduced by the authors. It will prove of use to the many

Voluntary Aid Detachments which are being formed throughout the United Kingdom.

About twenty new illustrations have been introduced. The edition before us is the Student's Edition. It is a marvel of good printing and cheapness, costing only nine-pence net.

A System of Surgery. Edited by C. C. CHOYCE, B.Sc., M.D., F.R.C.S.; Dean of, and Teacher of Operative Surgery in, the London School of Clinical Medicine (Post-Graduate); Assistant Surgeon to the Seamen's Hospital, Greenwich; Surgeon to Out-patients at the Great Northern Central Hospital. Pathological Editor, J. MARTIN BEATTIE, M.A., M.D., C.M.; Professor of Pathology and Bacteriology, and Dean of the Faculty of Medicine in the University of Sheffield; Hon. Pathologist to the Sheffield Royal Infirmary and Royal Hospital. In three editions. Vol. I., with 16 Coloured Plates, 64 Black-and-White Plates, and 250 Illustrations in the text. London: Cassell & Co., Ltd. 1912. 8vo. Pp. xxii + 957.

THIS work is designed for the practitioner of surgery who desires to keep himself abreast of the most modern teaching, and for the senior student who aims at a sound and comprehensive knowledge of present-day surgery. It is the work of surgeons and pathologists who are actively engaged in teaching and in practice.

We are told that the aim is to produce a work representative of the surgery, theoretical and practical, of Great Britain, and it is hoped that the list of authors shows that the endeavour has not been unsuccessful. The list of authors includes no less than fifty-one names, and doubtless can be held to be representative of Great Britain. The Union, though threatened, is not yet dissolved, and we think the editors might, without disadvantage, have included a few contributors from this unfortunate country.

The volume before us is devoted chiefly to surgical

pathology and general surgery. The first section, comprising about 90 pages, is written by the Lecturer in Pathology of Oxford—Dr. Ainley Walker—and treats of surgical bacteriology. It is nicely written, and gives a clear and succinct description of this most important subject. It is followed by an interesting and readable section—the therapeutical applications of surgical bacteriology, including serum and vaccine treatment.

The Professor of Pathology in Sheffield University—Dr. J. Martin Beattie—contributes the sections on inflammation, repair, tuberculosis, and the examination of the blood and cerebro-spinal fluid, all of which are excellently written and beautifully illustrated. The clinical aspect and treatment of inflammation are described by Mr. Maynard Smith, of St. Mary's Hospital and the Victoria Hospital for Children, while Mr. E. Lenthal Cheatle, of King's College Hospital and the Italian Hospital, is responsible for the section devoted to suppuration.

The Editor-in-Chief has contributed the chapters on "Wounds and Wound Treatment" (in which he is assisted by Mr. Gwynne Williams, of University College Hospital), and "Actinomycosis." By far the most exhaustive section in this volume is that on tumours, which is written by Messrs. Raymond Johnson, Surgeon to University College Hospital, and T. W. P. Lawrence, Lecturer in Morbid Anatomy and Curator of the Museum University College Hospital Medical School. It is a complete treatise in itself, and occupies considerably over one-fourth of the text of the volume. It is fully illustrated, and leaves nothing to be desired.

Other sections worthy of special mention in this volume are those devoted to X-ray examination, general anæsthesia, local anæsthesia, spinal anæsthesia, acquired syphilis, congenital syphilis, Salvarsan in the treatment of syphilis, and venereal diseases other than syphilis.

About 100 pages are devoted to the consideration of such subjects as Yaws, Delhi Boil, Leprosy, Madura Foot ; Glanders, Tetanus, Hydrophobia, Anthrax, and surgical diseases caused by animal parasites, snake-bites, &c.

The entire volume is excellently written, eminently practical, and magnificently and copiously illustrated.

It is a work which, so far as this volume is concerned, we can with confidence strongly recommend.,

The publishers deserve a word of praise for the way in which they have produced the book. The type is very clear, and does not tire the eyes, while the reproduction of the illustrations and plates is all that could possibly be desired.

A Handbook of Practical Treatment by Many Authors.

Edited by JOHN H. MUSSER, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia; and A. O. J. KELLY, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. In three volumes. Philadelphia and London: W. B. Saunders & Co. 1911.

THIS work has been written by about eighty different authors, both American and English—all the best authorities on the particular subject on which they have undertaken to write a section. The first part has been devoted to a discussion, from a general view-point, of various therapeutic measures; the latter part, to the special treatment of the many general and local diseases. While the brilliant therapeutic results of the empiricism and clinical observation of the past have been given their due measure of credit, the aim has been to reflect throughout the work those notable changes and advances in therapeutics that have resulted directly from the application of the science to the art of medicine. An innovation has been introduced in that in the discussion of many instances of disease on the borderland between the domains of medicine and surgery, both physicians and surgeons have written sections. Though great efforts have been made not to duplicate subject-matter and discussion, still in a work of this sort by many authors it is impossible to avoid it altogether, and this has at least the merit of affording the reader the benefit of the experiences and

opinions of more than one writer, which is especially valuable in relation to controversial matters and border-land medico-surgical subjects. No attempt has been made to chronicle all methods of treatment, but only those which have proved to be of special service in the experience of the various authors.

The first volume treats of general subjects, such as preventive treatment, dietetics, drug treatment, serum- and organo-therapy, electro- and radio-therapy. There is a good chapter on the general care and management of the sick, and the treatment of slight ailments, which strongly emphasises the importance of not being satisfied without making a diagnosis even in cases of slight ailments or symptomatic disorders. There are also chapters on food intoxication and poisoning, sunstroke, diseases of the blood, of the lymphatic system, of the ductless glands, and a chapter by Bloodgood on the surgical treatment of diseases of the thyroid and parathyroid glands.

The second volume deals with diseases of the circulatory system, infectious diseases, tropical diseases, and animal parasites.

The third volume deals with constitutional diseases, and diseases of the respiratory, digestive, urinary, nervous, and muscular systems.

There are some good illustrations, but we would suggest that the practice of printing X-rays adopted is very confusing, as some are shown as taken with the plate behind the patient and others with the plate in front; for instance, on pages 222 and 223 of Volume III., foreign bodies are shown in the right lung, but in one case it appears on the right hand side of the illustration, and in the other on the left hand side. Each volume is provided with a separate index which, with a list of subject-matter on the back of each volume, makes the work handy for reference.

The whole work is thoroughly up-to-date, and will be found a useful addition to the library of both the specialist and the general practitioner.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR CHARLES BALL, BART., M.D., F.R.C.S.I.
General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—A. J. HORNE, F.R.C.P.I.
Sectional Secretary—G. FITZGIBBON, M.D., F.R.C.P.I.

Friday, March 15, 1912.

THE PRESIDENT in the Chair.

Suppurating Undeveloped Horn of Bicornuate Uterus.

DR. E. H. TWEEDY exhibited this specimen. The patient complained of pain in the abdomen. She had been previously operated on in London. He ascertained that the abdomen had been opened and an abscess of the tube drained. The wound, however, suppurated, and sinuses afterwards formed in the left iliac region and in the vagina, both exuding fæces. The case was thought to be tubercular. On opening the abdomen he found a tumour communicating with the outer skin by one sinus and with the vagina by another. On the opposite side the uterus, with its attached tube, was seen. On removing the tumour and examining it he found it to be a uterus. The intestines were communicating with it, and fæces passing through. It was a fine example of the one horn of a bicornuate uterus.

DR. SOLOMONS recalled a case operated on some years ago at the Rotunda Hospital, in which, when the abdomen was

opened, it appeared as though there were three tumours present. One turned out to be a uterus, the second a uterus and vagina in a state of hæmato-colpos, and the third an ovarian tumour. He would like to know how Dr. Tweedy treated the intestinal condition.

DR. TWEEDY replied.

Prolapse and Pregnancy, with a Note on Vaginal suspension of the Uterus.

DR. BETHEL SOLOMONS read a paper on the above subject, in which he commented on the difficulties in treating pregnancy complicated by prolapse. Having spoken of the outcome of such conditions, he cited two cases in which the treatment proved extremely difficult. The second part of the paper dealt with the operation of vaginal suspension. Dr. Solomons wrote to sixty patients on whom the operation had been performed, and gave the results from the twenty-six replies which he received. The replies proved that the operation was an excellent one, and tended to no untoward symptoms in pregnancy, labour, or the puerperium.

Cause and Cure of Procidentia as it occurs in the Parous Woman.

DR. E. HASTINGS TWEEDY read a paper on the above subject. He had communicated with the different members of his specialty in Dublin, asking for an expression of opinion on these two points. The replies were so diverse that it was impossible all could be correct, and the many failures to cure demonstrate the false theories on which some operations have been built. In 1906 he described a procedure founded on the principles of Alexandroff's operation—*i.e.* fixing Mackenrodt's ligaments in front of the cervix. This he has practised many times since, and is more than ever convinced of its efficacy. The extra-peritoneal shortening of the so-called sacro-uterine ligaments he considered a mere modification of Alexandroff's operation, for the fascia which lies immediately beneath these ligaments interlaces with Mackenrodt's ligaments at the cervical insertion, and both form parts of the diaphragm which stretches across the pelvic inlet.

DR. JELLETT, before discussing the subject of Dr. Tweedy's paper, said he would like to have answers to the

following questions:—1. How many cases of Alexandroff's operation had Dr. Tweedy done? Answer, Eight. 2. Am I right in considering that you said that the utero-sacral ligaments are peritoneal folds? Answer, Yes. 3. Does Alexandroff's operation touch the utero-sacral ligaments? Answer, No. Continuing, Dr. Jellett said that he must consider Dr. Tweedy's paper from two points of view. First, had his (Dr. Jellett's) operation for shortening the utero-sacral ligaments anything to say to Alexandroff's operation? Secondly, was Alexandroff's operation more efficacious than shortening of the sacro-uterine ligaments in cases of prolapse? As to the former of these it resolved itself into a question of whether it was possible to confuse the two ligaments. He feared he could not teach Dr. Tweedy anatomy to help him to distinguish, but, so far as he himself was concerned, he could not see any possibility of confusing the two. One—Mackenrodt's ligament—ran horizontally along the base of the broad ligament; the other—the sacro-uterine—ran vertically. One was broad and flat, the other string-like. Dr. Tweedy could feel the latter for himself if he passed a finger into the rectum and palpated the back of the uterus, while at the same time he drew down the cervix with a bullet forceps. He thought it a pity that Dr. Tweedy had spoiled a good paper by going out of his way to deny originality to an operation which he had never performed, and had never seen performed. In regard to the second matter, as to which Alexandroff's operation or his was the more efficient, he personally considered that the sacro-uterine operation was so on theoretical grounds. It is easier to support any object by a vertical support than by horizontal supports, because the latter, to give the same help, must be stronger and tighter. He was at a loss to understand Dr. Tweedy's criticism of Wertheim's interposition operation. There was no such thing as exposing the body of the uterus in the vagina. He considered it the best prolapse operation in women past the child-bearing period, provided that when necessary the utero-sacral ligaments were also shortened. He would like to have authority for many of Dr. Tweedy's statements, and particularly for one to the effect that division of the utero-sacral ligaments did not affect the position of the uterus. In conclusion, he asked Dr. Tweedy to do two things when publishing his

paper. First, to state openly that his remarks applied to his (Dr. Jellet's) operation, and not to omit names as he had done; and secondly, to state that he had never performed the operation or seen it performed.

SIR WM. SMYLY said he agreed with what Dr. Solomons had said about the danger of complete prolapse in connection with pregnancy: in one case he remembered when the patient had been in labour five or six hours the uterus ruptured. He was not so sure that during pregnancy was a good time to undertake operation, as the stretching of the parts might afterwards nullify the effects. He would prefer to wait until after the puerperium. As to the supports of the uterus he would quite agree with Dr. Tweedy that Mackenrodt's ligaments are the chief support, but he considered that he (Dr. Tweedy) made too little of the other things that go to support the uterus. He had seen Dr. Tweedy perform Alexandroff's operation, and that day he had performed Dr. Jellet's operation himself. Both of them he considered very good, but distinct, operations. He had no difficulty in finding the utero-sacral ligaments and bringing them in front of the uterus. But as to the ultimate result of either he had no experience. Of all the operations for prolapse which he had performed he found inter-position to be the best, because it cured the cystocele, which was the most common and most distressing complication.

PROFESSOR SMITH considered that the argument between Dr. Jellet and Dr. Tweedy as to ligaments was not of as much importance as the question of how to best treat prolapse. A point that struck him about Dr. Solomons' paper was that, supposing a woman to have had a rigid œdematous cervix, and one were called to deliver her with this cervix protruding through the vulva, was vaginal incision the best method? There were a great number of men doing fixations, and he thought it would be well for them to endeavour to get an idea from their practice if a case was about to go wrong by making an examination during pregnancy. If a case was met with in the fourth or fifth month of pregnancy, and the cervix was retracted upwards and the fundus fixed he would suggest operative treatment to separate the adhesion and allow the fundus to go up. He was himself more in favour of Dr. Jellet's operation. There could be no doubt about palpable bands of fibres being felt, and he was with

Dr. Jellett in believing that when they are shortened they have a distinct influence in drawing the cervix backwards and tilting the fundus forward. The operation which he usually does is the drawing of the round ligaments through the recti muscles and fixing them there.

DR. GIBBON FITZGIBBON said that the operation he had been doing was the one recommended by Dr. Tweedy. He did not think that the lavator ani was to be so completely ignored as Dr. Tweedy led them to believe, as it is this that goes to support the extra strain on the pelvic fascia, and the uterus is dependent for support on the pelvic fascia. In the operation for procidentia, if one could be sure of the uterus remaining in antiversion it ought not to be necessary to do any interposition of the uterus. He could not agree with Dr. Tweedy in attaching a point one-half inch below the Fallopian tubes down to as near as possible the urethral orifice; this he considered far too extreme, as too much of the anterior wall of the uterus was brought down and fixed to the anterior vaginal wall. In connection with the figures given by Dr. Solomons regarding cases followed up after operation the proportion of abortions appeared to be very great. In any cases that he had done he only fixed about one-third inch above the peritoneal reflection of the uterus, and this he fixed about half way between the vaginal fornix and the urethra. One patient that had been treated in this way went through a twin pregnancy afterwards quite normally.

DR. ASHE said that from an anatomical point of view he would consider that Dr. Tweedy was correct in saying that Mackenrodt's is the ligament for the support of the uterus. Mackenrodt had described the ligament, but he considered that Dr. Tweedy was deserving of congratulation for having made use of it.

THE PRESIDENT, speaking of the two papers, said that one might be described as practical and the other as theoretical. The cases described by Dr. Solomons were such as might be met with every other day, but he thought it was very seldom that a displaced pregnant uterus is met with that cannot be rectified and supported by a pessary. He would prefer not to operate for the prolapse until pregnancy was over. It had just occurred to him that cases of procidentia were often seen occurring suddenly in young girls from lift-

ing weights or some such cause, and in these instances the procidentia is evidently caused by pressure from above. In dealing with them what ligaments should be attacked? He thought that it was possible that no suspension had occurred in some of the cases referred to by Dr. Solomons.

DR. SOLOMONS said that before replying to the remarks on his paper he would like to say something with regard to Dr. Tweedy's paper. The chief thing that struck him was that everyone was unanimous in the opinion that there was an operation which could cure prolapse or procidentia, and that the time had come for the abolition of pessaries. In his paper Dr. Tweedy referred to a reply he had received, stating at the time of fixation in a certain case resection of the tubes was done. He (Dr. Solomons) thought that such an operation should not be allowed: in fact, that such a procedure—viz., resection of tubes in a parous woman—should be regarded as a misdemeanour. The term fixation had been used by some speakers with reference to the statistics he had collected, but suspension had been done, not fixation; and where the former is done there is, as noted in the paper, no danger at all. In the first case mentioned all pessaries had been tried and failed, and the operation was done as a last resort. Abortions had occurred in only two of the suspension cases followed up, as although there were also abortions in four other cases, there were full term babies as well. Referring to the President's remarks he had observed that the case was one in which the cervix was œdematous, ulcerated and prolapsed.

DR. HASTINGS TWEEDY, in replying, said that the discussion showed that we are possessed of a good operation for the cure of "procidentia." There was very little difference between the operation described by him and that practised by the Master of the Rotunda. In respect to priority there was two years' difference in favour of his (Alexandroff's) operation. The controversy centred on whether the fascia which lies immediately below the sacro-uterine ligaments should be considered as a part of these ligaments or a part of the extra-peritoneal fascia, of which Mackenrodt's ligaments form the chief bundles. In respect to other questions he thought his paper sufficiently answered them. He desired to congratulate Dr. Solomons on his excellent paper, and the brilliant result obtained after his bold and novel

operation. He desired also to thank him for the trouble he had taken in writing to sixty patients on whom vaginal suspension had been performed during his (Dr. Tweedy's) Mastership of the Rotunda Hospital. He trusted the publication of these statistics would convince men that they were neglecting a valuable operation.

SECTION OF PATHOLOGY.

President—PROFESSOR A. H. WHITE.

Sectional Secretary—W. BOXWELL, M.B., F.R.C.P.I.

Friday, March 22, 1912.

THE PRESIDENT in the Chair.

Shreds in Clear Urine.

MR. GUNN read a paper on this subject.

DR. O'FARRELL said the importance of cylindroids, which are so often found in urine, was puzzling to him. The presence of bacteria, with the exception of gonococcus, he considered of no importance. Unless the urine is obtained in a perfectly sterile fashion he thought no importance could be attached to any particular cast. He would like to ask Mr. Gunn whether the mobility of spermatozoa in combination with the prostatic fluid referred to in his paper was due to chemical action or to purely physical action.

MR. GUNN, replying, said that he had been told that if the prostatic fluid was heated to boiling point and then allowed to cool, this action would not take place; but if the spermatozoa come into contact with the fluid in the ordinary way a feeble action starts.

Case of Acute Yellow Atrophy.

DR. WYNNE, speaking of the case from the clinical aspect, said the patient, who was a commercial traveller, aged twenty-nine years, was married, and had one child, consulted him for chancre on the penis which was considered to be syphilitic. He was put on hydrargyrum cum cretâ, but the chancre went on enlarging for some time. With regard to the symptoms in connection with the acute yellow atrophy,

he saw the patient on the 1st of March, when he was distinctly jaundiced, although when he saw him a week before he was apparently all right. He had some vomiting and loss of appetite, and it was considered to be a case of ordinary catarrhal jaundice, and was treated accordingly. The patient was again seen on the 4th and 5th of March, when it was noticed that he was not perfectly clear in his memory of recent events, but was otherwise very rational. On the 8th of March he was delirious, and on the following morning maniacal, and had been very violent during the night. The diagnosis was accordingly revised in favour of acute yellow atrophy. Dr. Parsons was then called in, and agreed with the diagnosis. A catheter specimen of the urine was taken, and the patient was removed to hospital. He continued to be very violent, and had to be put in a strait waistcoat. He died the following morning. Death took place within ten days from the commencement of the disease.

DR. PARSONS said that when he saw the patient it was a day after he had developed jaundice. He was then delirious and practically unconscious. He had his reflexes, temperature 99.5° , and pupils medium. He was very restless, and it was found impossible to then pass a catheter. The history was that he passed no urine since the previous day. When a specimen of urine was obtained by passing a catheter and examined, it contained a very minute trace of albumen and some bile. The patient was not markedly jaundiced. There was no leucin or tyrosin in the urine. There was a marked diminution of urea, only one-fourth of the normal amount being present; but there was an increase in the amount of ammonium salts, about three or four times the normal amount of ammonium being present. It should be stated that the liver dulness had disappeared. Permission having with difficulty been obtained for a limited *post-mortem*, the abdomen was opened. The liver could not at first be discovered, but on passing the hand far back in the anterior abdominal wall a liver very much diminished in size was found. The spleen and pancreas appeared to be normal. The liver weighed 22 oz. There was a very marked diminution of the left lobe. The consistence was very unlike that of normal liver. On the surface it was of a more or less uniform red colour. When cut, three-fourths of the section were of an ochre-yellow colour, and the remainder was a very

dark red. Some microscopic sections were made to examine for leucin and tyrosin, but with a negative result. It was pointed out that on inquiry at the Registrar-General's Office it was found that no case of death from acute yellow atrophy had been certified for the past ten years; and as it was known that two cases had occurred, it would be of interest to ascertain under what heading they were certified. One of the cases referred to had been reported by the Registrar-General himself.

PROFESSOR O'SULLIVAN spoke of the result of his examination of the specimen of the liver submitted to him. The liver measured 9 inches in length, right lobe $5\frac{3}{4}$ inches., left $3\frac{1}{4}$ inches, $4\frac{1}{2}$ inches in width, $2\frac{1}{4}$ inches in depth; weight 22 ounces. The consistence was greatly diminished, fluctuation could be felt on the surface, the capsule was wrinkled; on section the cut surface was smooth, shiny, and moist. No fluid came away on streaking the surface with a knife. The colour was dark brown on the surface; on section the right half of the right lobe was dark reddish, the rest of the right lobe and the left were greenish yellow; the markings of the lobules were difficult to see. In the yellow part, with the lens, a marking with depressed dark lines could be seen. *Microscopic.*—The *yellow portion* of the liver showed a complete fatty degeneration and necrosis of the liver cells with intermediate portion of the lobule extending nearly out to Glisson's capsule and nearly into the central vein. There was a great quantity of neutral and mixed fat as shown by the Nile blue staining. The outlines of the cells could be distinguished, but they were separate and scattered, and had lost all trace of columnar arrangement. There was a good deal of light brown, very finely granular pigment, which lay often in the circumference of a clear vacuole. There was slight cell infiltration of Glisson's capsule, and round the central vein. The *red portion* showed a division into light and dark-stained areas. The dark areas were round Glisson's capsule, and also round the central veins, the lighter parts corresponding to the intermediate part of the lobule. In the *light areas* the liver cells were broken up, and were very various in size, some being multinucleated. The capillaries were distended with blood, and there were numerous hemorrhages. Many liver cells contained red cells in their interior. There was much brown pigment in tiny needle crystals. In the *darker*

areas there was also much pigment, coarsely granular, in clumps, whose outlines suggested that the pigment lay in the interior of cells. In places, especially around the central veins, there were areas of cell infiltration and numerous "new-formed bile ducts." Neutral fat occurred in considerable quantities in the dark areas, but was generally absent from the light areas.

DR. O'KELLY said that the present-day opinion was that cases that were formerly regarded as yellow atrophy now fell under one or other of two heads—viz., those in which there was general fatty degeneration of the liver and those in which no fatty degeneration was demonstrable. He thought the latter were the cases for which the term ought to be reserved.

THE PRESIDENT referred to a case of sub-acute yellow atrophy shown by Dr. O'Carroll some years ago, when the liver showed areas differing markedly from one another in appearance; but there was not much evidence of granulation tissue or young cells. He thought it possible that many of these cases were not diagnosticated, and many of the irregular forms of cirrhosis might be due to infections of this kind. He remembered a case of extremely acute yellow atrophy, in which it was quite impossible to find anything indicating liver cells, although the patient died in four days. There was no evidence whatever of fat in the whole liver. It was stated that in these cases the products of the fat metamorphosis of the liver cells disappear with extraordinary rapidity.

Human Actinomycosis, showing relation of Fungus to Implanted Tissue (with lantern slides).

In the absence of PROFESSOR E. J. McWEENEY DR. W. D. O'KELLY introduced the specimens, and showed a microscopic section of a piece of vegetable fibre implanted in the tongue, with the fungus adherent to it.

Actinomycosis—Notes on three recent Cases.

DR. W. D. O'KELLY said in 1877 Bollinger first described the ray fungus which he isolated from cattle. Since this time the disease produced by this organism—actinomycosis—has been very frequently recognised in animals, and to some extent in man. Nevertheless, records of cases are uncommon. Osler says that in 1902 only one hundred cases

could be collected in America. In the *Lancet* and *British Medical Journal* of 1910 only six cases are recorded, and four of these occurred in the years 1907-8. It would, therefore, appear that this disease is either not regarded as sufficiently important to merit publication, or, what appears more likely, that the condition is frequently incorrectly diagnosed. The disease is, of course, readily amenable to treatment with KI., which cannot be said of tuberculosis, for which actinomycosis is frequently mistaken. It is thus of great importance to distinguish between these two conditions. As regards the ætiology of actinomycosis, the disease is believed to be conveyed by chewing grasses on which the ray-fungus is growing, in support of which we find in a list of fifty-three cases the disease occurred in the appendix region fourteen times, and twenty-seven times about the face and neck. Seltmann's classical case, where a barley-awn was found in empyema-pus along with the ray-fungus, still further supports the idea. The biology of the streptotriches has been dealt with recently by Foulerton in the Milroy lectures, which are published in the *Lancet* of 1910. The lectures are so complete and so easily accessible that it would be merely waste of time to go into the matter. From recent researches it appears that the leprosy bacillus, which so long resisted cultivation outside the body, and which we now suspect to be transmitted by a bug, is really a streptothrix with both acid-fast and non-acid-fast stages. The three cases, of which Dr. O'Kelly gave brief details, all came under his notice in the Mater Hospital in 1911; in fact, the first was diagnosed in the Easter recess, whilst the last left the hospital at the beginning of the summer vacation. They are the only cases of human actinomycosis that have come under his notice since his appointment to the hospital, with the addition of one still more recent.

CASE I.—A man of cancerous age complained of trouble in the tongue, and as a small swelling could be felt an incision was made and the affected tissue removed, partly with a view to diagnosis and partly on the ground that it might be a case of early malignancy. On incising the tissue with a razor at a place where the epithelium appeared to be thickened it was seen that the epithelium was merely raised over a portion of the muscle, which showed an unusual appearance, the nature of which Dr. O'Kelly did not understand. Frozen sections

were made, and, to his surprise, a nodule of actinomyces revealed itself in the midst of a granulomatous change in the muscle. Many other sections were examined, but only one other was found to show the fungus—that which he showed—in which two tufts of the organism are present.

CASE II.—Female, from whom appendix was removed. This was examined, and showed evidence of chronic appendicitis, but no special characteristics could be made out. The patient did well except for a small sinus which formed and refused to heal. A culture was made from it, and an auto-genous staphylococcic vaccine was prepared. The vaccine improved matters considerably, but the sinus persisted. It was then scraped, and in the films and sections prepared from the scrapings the ray-fungus was readily detected. The section is shown stained by the Gram-Wright method.

In neither of these cases was there anything to lead one to suspect a streptothrix infection.

CASE III. was on the more usual lines. A middle-aged farmer was admitted to the Mater Misericordiæ Hospital suffering from a diffuse brown swelling in the front of the neck and most marked over the supra-sternal notch. The diagnosis that the condition was probably tuberculous was made, the diseased area was incised, and drains were inserted. After some time the surgeon suggested the likelihood of actinomycosis, and on examination of the pus I found “sulphur-grains” which yielded the typical branching filaments on staining. It may be asked—Why were not cultures made from these cases? The material from the first two cases was received in formalin. In the third case cultures were started, but were not a success, partly because only ordinary agar was employed, partly because he had a strain of actinomyces growing, and possibly because the organism may have been anaërobic, and only aërobic methods were employed.

CASE IV.—In 1911 Dr. O’Kelly came across a case of streptothrix growth in the inferior canaliculus. The condition is that a streptothrix, of which he showed a culture and films, grows in this duct without apparently causing much trouble save that due to obstruction. The growth was 1 c.m. in diameter. The organism is Gram-positive, but not acid-fast. It requires a condition of partial anaërobiosis, growing best about an inch from the surface of the

agar, and the colonies resemble a sponge, whilst some of them are rather discoid in the early stages. The condition, though known, does not appear to be common. The Reporter had not been able to find any name associated with this streptothrix. He would be glad to hear from the members their experiences with streptothrix infections.

In conclusion he had to express his thanks to Mr. D. Farnan for permission to bring forward Cases I. and II., and he was equally indebted to Sir J. Lentaigue and Dr. Werner in connection with the third and fourth cases.

Cultures and Slides of Actinomyces.

DR. W. G. HARVEY showed these. He said the case from which they were taken was one of Dr. Wallace Beatty's, which was a typical one of actinomycosis occurring in a woman. The pus showed sulphur granules, and there was difficulty in getting a growth. He thought there could be little doubt that it could not be regarded as a single organism but as a group. The culture shown was a sub-culture from the original culture. Various media were used, and some were done aërobically and others anaërobically. A specimen growing glycerine-agar was also shown. He drew attention to the difference between the accounts given in books and his experience in growing these cultures. Books on the subject say that the culture commences to show after a week, but his experience proved that it was nearly a month before it appeared. He could find no club-shaped bodies in the original pus, but there were a good number of club-shaped ends to the filaments.

Cultures and Slides of Actinomyces.

DR. T. T. O'FARRELL, in showing slides of these cultures, said that the particular case from which they had been taken was diagnosticated as sarcoma. One of the reasons for this diagnosis was that either a brother or sister of the patient had died of sarcoma. Frozen sections were cut, and streptothrix was discovered; but no clubs were found. He suggested hardening pus in formalin as a good preparation for cutting sections of pus. He thought that the difficulty in culturing was due to the secondary infection. The culture passed round for inspection was not from the case referred to above.

PROF. METTAM spoke of his experience of the condition in

the lower animals. He would have liked to hear from some of those gentlemen who had made these communications what actinomycosis really was. He knew that a considerable number of different varieties of actinomyces had been described, but he believed that the modern idea was that there was only one, and that that was the one that was common to man and bovines. He went on to speak of their growth, and said that they grew in a most remarkable manner. Bowman found that the organism grew like the micro-organism of contagious abortion, and got his colonies about $\frac{1}{8}$ inch below the surface of the media. His own experience was that they grew like the streptothrix, but that owing to resistance he got development of clubs. He said it was an undoubted fact that a considerable number of investigators called colonies of actinomyces which were not actinomyces at all. He remembered a liver being sent to him said to be tuberculous of which he made a number of smears and got a grand illustration of streptothrix therefrom. One of the methods of differentiation between the various forms of streptothrix was by animal experiment, as it was stated that it was almost impossible to reproduce actinomycosis experimentally. With regard to the staining of actinomyces in the tissue, cases had been recorded where the colonies would not stain by any method. So far as he could ascertain, most of the lesions are met with in some part of the alimentary tract, where the condition occurs in man, whereas in the bovine specimens they are mostly confined to the head. The infection is commonly believed to be parasitic. In skin cases he thought there could be little doubt that the infection was direct. There were also cases clinically affected which were called actino-bacillosis.

DR. HARVEY said that with reference to the efficacy of potassium iodide in such cases he had experience of two cases in which it had failed, and he had never known it to be a success except where there was also surgical interference.

DR. ADRIAN STOKES referred to a case of actinomycosis with sinuses in the neck, from which sufficient culture was obtained to make a vaccine. From the time the vaccine was given the lesion rapidly healed without any other treatment whatever.

THE PRESIDENT said that it was generally admitted by those dealing with the organism that our knowledge of it was

not in a very satisfactory state at present. With regard to its reproduction in animals, he remembered a pulmonary case in which the lung was studded with streptothrix from which a guinea pig was inoculated, and it was said that the animal died about eighteen months afterwards. This period, however, he considered too long to await the result of an experiment.

DR. W. D. O'KELLY, replying, said that he agreed with Professor Mettam as to the variety in actinomyces. He thought that actinomyces did grow better below the surface of the media. With regard to the condition occurring mostly in the head in the case of cattle, he thought that this was due in a measure to the fact that in the process of chewing the cud there was an additional opportunity for infection in that region, the food being brought back to the mouth a second time. With reference to the colour of cultures, the first colour he said grew black, but on sub-culturing it grew white. As regards the utility of potassium iodide, the cases he referred to were healed by it in a month or five weeks without any further surgical interference than a little drainage.

THE DIAGNOSIS OF CHRONIC ICTERUS.

AFTER a rapid *résumé* of the various causes of jaundice, Professor A. Cade, of Lyons, divides the chronic cases which are the subject of his lecture into two main classes: the variety in which bile is eliminated with the urine, and the variety in which urobilin only is found in the urine. Occasionally these two varieties may alternate in the same patient. Professor Cade reports in great detail a typical case of chronic jaundice with choluria, discoloration of the fæces and dilatation of the gall-bladder. The macroscopical, microscopical, and chemical examination of the fæces—and Professor Cade lays great stress on these different tests—is nowadays the best and safest way to settle the diagnosis, and the various tests according to the various forms of the disease are very clearly explained in this very interesting lecture.—*Le Progrès Médical*, December 9, 1911.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS

For four weeks ending Saturday, May 18, 1912.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended May 18, 1912, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 18.6 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,157,014. The deaths registered in each of the four weeks ended Saturday, May 18, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to the deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality:—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c.	Week ending				Average Rate for 4 weeks
	April 27	May 4	May 11	May 18			April 27	May 4	May 11	May 18	
22 Town Districts	20.3	20.2	19.9	18.6	19.8	Lisburn	21.4	8.6	8.6	17.1	13.9
Armagh	6.9	6.9	13.7	20.6	12.0	Londonderry	25.5	12.7	21.7	14.0	18.5
Ballymena	13.8	18.3	4.6	22.9	14.9	Lurgan	30.1	17.2	17.2	21.5	21.5
Belfast	18.0	17.9	15.3	18.4	17.4	Newry	26.2	4.4	17.4	21.8	17.5
Clonmel	15.2	10.1	—	5.1	7.6	Newtownards	11.4	34.3	11.4	22.9	20.0
Cork	17.7	21.1	21.1	22.5	20.6	Portadown	17.8	17.8	17.8	31.1	21.1
Drogheda	25.2	21.0	42.0	12.6	25.2	Queenstown	13.2	6.6	19.8	26.4	16.5
Dublin (Reg. Area)	23.6	25.9	25.1	18.2	23.2	Sligo	14.0	9.3	32.7	9.3	16.3
Dundalk	27.8	11.9	4.0	4.0	11.9	Tralee	15.9	21.1	15.9	37.0	22.5
Galway	23.6	3.9	33.4	19.7	21.6	Waterford	13.3	5.2	17.1	26.6	18.1
Kilkenny	9.9	14.9	19.8	5.0	12.4	Wexford	22.8	27.3	22.8	18.2	22.8
Limerick	17.7	20.4	16.3	17.7	18.0						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, May 18, 1912, were equal to an annual rate of 1.3 per 1,000—the rates varying from 0.0 in seventeen of the districts to 10.6 in Tralee, the 7 deaths from all causes for that district including 2 from diarrhœa and *enteritis* of children under 2 years of age. Among the 138 deaths from all causes registered in Belfast are 4 from whooping-cough, 2 from diphtheria, one from scarlet fever, and 3 from diarrhœa and *enteritis* of children under 2 years. The one death registered in Dundalk is from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 403,732, that of the City being 309,738, Rathmines 38,330, Pembroke 29,347, Blackrock 9,090, and Kingstown 17,227.

In the Dublin Registration Area the births registered during the week ended May 18 amounted to 223—113 boys and 110 girls—and the deaths to 149—64 males and 85 females.

DEATHS.

The registered deaths, omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 18.2 per 1,000 of the population. During the twenty weeks ending with Saturday, May 18, the death-rate averaged 24.8, and was 0.1 above the mean rate for the corresponding portions of the 10 years 1902–1911.

The total deaths registered, numbering 149, represent an annual rate of 19.1 per 1,000. The annual rate for the past twenty weeks was 26.2 per 1,000, and the average annual rate for the corresponding period of the past ten years was 25.8 per 1,000 of the mean population for all deaths registered.

The total deaths from all causes included one from enteric fever, 8 from measles, 2 from scarlet fever, 2 from diphtheria, 2 from whooping-cough, and one death from diarrhœa of an infant under one year of age.

In each of the 3 preceding weeks, deaths from enteric fever

were 3, 0, and 0 ; deaths from measles were 16, 15, and 14 ; deaths from scarlet fever were one, 4, and 5 ; deaths from whooping-cough were 2, 4, and 0 ; deaths from diphtheria were one, 4, and 3 ; and deaths from diarrhoea and *enteritis* of infants were 7, 4, and 4, respectively.

There were 26 deaths from tuberculosis. The number includes 17 deaths from pulmonary tuberculosis, 4 deaths from abdominal tuberculosis, one death from tubercular meningitis, one death from disseminated tuberculosis, and 3 deaths from tuberculosis of the vertebral column. In each of the three preceding weeks, deaths from tuberculosis numbered 21, 38, and 32.

Broncho-pneumonia caused 10 deaths, lobar pneumonia 2 deaths, and *pneumonia* (type not distinguished) caused 6 deaths. Organic diseases of the heart caused the deaths of 15 persons, and 10 deaths from bronchitis were recorded.

The deaths of one infant under one year, and of one child between the ages of 2 years and 5 years, were caused by *convulsions*.

Prematurity caused the deaths of 3 infants, congenital malformation 2 deaths, and congenital debility 2 deaths.

Of 3 deaths attributable to accident or negligence one was by burning and one was by suffocation in bed of an infant.

In 2 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases comprise the death of an infant under one year of age, and the death of one person aged 67 years.

Forty-five of the persons whose deaths were registered during the week ended May 18 were under 5 years of age (21 being infants under one year, of whom 7 were under one month old), and 36 were aged 65 years and upwards, including 27 persons aged 70 and upwards. Among the latter were 19 aged 75 years and upwards, of whom one (a female), was stated to have been aged 93 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set

forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended May 18, 1912, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) ^a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis (<i>Phtisis</i>)	Acute Poliomyelitis	Total
City of Dublin	April 27	-	•	•	15	-	16	-	-	9	10	-	•	-	12	•	4
	May 4	-	•	•	17	-	17	-	1	1	3	-	•	-	8	•	4
	May 11	-	•	•	17	-	6	-	-	4	10	-	•	-	12	•	4
	May 18	-	•	•	20	-	5	-	-	1	9	-	•	-	16	•	4
Rathmines and Rathgar Urban District	April 27	-	•	•	7	-	5	-	-	-	1	-	•	•	•	•	1
	May 4	-	•	•	3	-	4	-	-	-	1	-	•	•	•	•	1
	May 11	-	•	•	8	-	2	-	-	-	-	-	•	•	•	•	1
	May 18	-	•	•	1	-	1	-	-	-	-	-	•	•	•	•	1
Pembroke Urban District	April 27	-	1	-	-	-	-	-	-	-	-	-	-	-	-	•	1
	May 4	-	3	-	1	-	4	-	-	-	-	-	-	-	4	•	1
	May 11	-	4	-	3	-	1	1	-	-	-	-	-	-	4	•	1
	May 18	-	2	-	5	-	3	-	-	-	1	-	-	-	-	•	1
Blackrock Urban District	April 27	-	•	•	-	-	-	-	-	-	-	-	•	-	-	•	-
	May 4	-	•	•	-	-	-	-	-	-	-	-	•	-	•	•	-
	May 11	-	•	•	2	-	-	-	-	-	-	-	•	-	•	•	-
	May 18	-	•	•	1	-	-	-	-	-	-	-	•	-	•	•	-
Kingstown Urban District	April 27	-	•	•	3	-	-	-	-	-	-	-	•	•	-	•	-
	May 4	-	•	•	5	-	-	-	-	-	-	-	•	•	-	•	-
	May 11	-	•	•	3	-	-	-	-	-	-	-	•	•	1	•	-
	May 18	-	•	•	3	-	-	-	-	-	1	-	•	•	-	•	-
City of Belfast	April 27	-	•	•	10	-	1	-	-	-	2	1	•	-	10	-	2
	May 4	-	•	•	9	-	2	-	-	-	2	-	•	1 ^b	16	-	3
	May 11	-	•	•	15	-	2	-	-	-	3	-	•	-	14	-	3
	May 18	-	•	•	10	-	6	-	-	1	2	1	•	-	16	-	3

^a Continued Fever.

^b Returned as cerebro-spinal meningitis.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended May 18, 1912, 23 cases of measles were admitted to hospital, 20 were discharged, there was one

death, and 60 cases remained under treatment at the close of the week. In the three preceding weeks such cases were 70, 66, and 58 respectively.

Twenty-one cases of scarlet fever were admitted to hospital, 9 were discharged, there were 2 deaths, and 136 cases remained under treatment at the close of the week. At the close of the 3 preceding weeks the cases in hospital were 99, 110, and 126 respectively.

Eleven cases of diphtheria were admitted to hospital, there were 3 deaths, and 15 were discharged. The cases in hospital, which at the close of the 3 preceding weeks numbered 69, 71, and 66, respectively, were 59 at the close of the week.

Four cases of enteric fever were admitted to hospital, 6 were discharged, there was one death, and 30 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of each of the 3 preceding weeks being 35, 34, and 33.

In addition to the above-named diseases, 12 cases of pneumonia were admitted to hospital, 11 were discharged, there was one death, and 33 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, May 18, in 77 large English towns (including London, in which the rate was 11.8), was equal to an average annual death-rate of 12.7 per 1,000 persons living. The average rate for 18 principal towns of Scotland was 15.8 per 1,000, the rate for Glasgow being 17.5, and that for Edinburgh 15.3.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended May 18. From this Report it appears that of a total of 51 cases notified, 33 were of phthisis, 9 of scarlet fever, 2 of diphtheria, one of puerperal fever; one of cerebro-spinal fever, and 5 of erysipelas. Among the 331 cases of infectious disease in hospital at the close of the week were 93 cases of measles, 38 of diphtheria, 57 of phthisis, 80 of scarlet fever, 37 of whooping-cough, 12 of erysipelas, one of chicken-pox, one of puerperal fever, and 6 of enteric fever.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of May, 1912.

Mean Height of Barometer, - - -	29.969 inches.
Maximal Height of Barometer (25th, at 9 a.m.),	30.400 „
Minimal Height of Barometer (15th, 4 p.m.), -	29.510 „
Mean Dry-bulb Temperature, - - -	53.3°.
Mean Wet-bulb Temperature, - - -	50.1°.
Mean Dew-point Temperature, - - -	47.0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.327 inch.
Mean Humidity, - - - -	80.2 per cent.
Highest Temperature in Shade (on 11th), -	68.9°.
Lowest Temperature in Shade (on 13th), -	38.9°.
Lowest Temperature on Grass (Radiation) (13th),	34.8°.
Mean Amount of Cloud, - - - -	59.9 per cent.
Rainfall (on 19 days) - - - -	1.042 inches.
Greatest Daily Rainfall (on 19th), - - -	.301 inch.
General Directions of Wind, - - - -	E., W.

Remarks.

A dry and yet showery month, for there was a measurable rainfall on 19 out of 31 days, although the total precipitation in Dublin only slightly exceeded an inch (1.042 inches). A marked advance in temperature was the main feature in the weather of the week ended Saturday, the 11th, the mean temperature of which week was 57.5°, or 6.4° over the average. On its closing day the thermometer rose to 68.9° in the screen in Dublin (Fitzwilliam Square), and to mid-summer heat in the London district—78° at Westminster, 79° at South Kensington, 81° at Camden Square, and 83° at Greenwich Observatory. A relapse in temperature characterised the following week, its mean temperature being only 51.5°—that is, a falling off of 6° so far as Dublin is concerned. This depression of temperature lasted through the third week (19th–25th), and from the 20th to noon of the 23rd the weather was not only unseasonably cold, but also extremely dull, with frequent rain-showers. The following two days, the 24th and 25th, however, although still somewhat cold, were brilliantly fine. The closing period of the month was generally fine in the Dublin district, but on the 30th and 31st thunderstorms became prevalent in several

places, the electrical disturbances being accompanied by widely varying amounts of rain.

In Dublin the arithmetical mean temperature (53.9°) was 1.7° above the average (52.2°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 53.3° . In the forty-eight years ending with 1912, May was coldest in 1869 (M. T. = 48.2°), and warmest in 1893 (M. T. = 56.7°). In 1911 the M. T. was 55.3° .

The mean height of the barometer was 29.969 inches, or 0.020 inch below the corrected average value for May—namely, 29.989 inches. The mercury rose to 30.400 inches at 9 a.m. of the 25th, and fell to 29.510 inches at 4 p.m. of the 15th. The observed range of atmospheric pressure was, therefore, 0.890 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 53.3° , or 3.9° above the value for April, 1912— 49.4° . Using the formula $\text{Mean Temp.} = \text{Min} + (\text{Max.} - \text{Min.} \times .47)$, the value is 53.5° , or 1.7° above the average mean temperature for May, calculated in the same way, in the thirty-five years, 1871–1905, inclusive, (51.8°). The arithmetical mean of the maximal and minimal readings was 53.9° , compared with a thirty-five years' average of 52.2° . On the 11th the thermometer in the screen rose to 68.9° —wind, W.S.W.; on the 13th the temperature fell to 38.9° —wind W.N.W. The minimum on the grass was 34.8° on the 13th.

The rainfall amounted to 1.042 inches, distributed over 19 days. The average rainfall for May in the thirty-five years, 1871–1905, inclusive, was 1.970 inches, and the average number of rain-days was 15. The rainfall therefore was considerably below the average, whereas the rain-days were 4 in excess. In 1886 the rainfall in May was very large—5.472 inches on 21 days; in 1869, also, 5.414 inches fell on 19 days. On the other hand, in 1895, only .177 inch was measured on but 3 days. In 1896 the fall was only .190 inch on 7 days. In 1911, 1.286 inches fell on 10 days.

A solar halo appeared on the 2nd, 8th, 10th, 17th and 27th. No high winds were noted. Hail fell on the 16th. There was a fog on the 10th.

The mean minimal temperature on the grass was 44.5° , compared with 46.2° in 1911, 42.0° in 1910, 41.9° in 1909, 45.2° in 1908, 41.6° in 1907, 41.9° in 1906, 42.5° in 1905, 42.6° in 1904, 44.3° in 1903, 40.3° in 1902, 41.7° in 1901, and 37.6° in 1894. The maximum never fell short of 50° . The absolute maximum was 68.9° on the 11th.

The rainfall in Dublin during the five months ended May 31st amounted to 11.161 inches on 87 days, compared with 5.986 inches on 69 days in 1911, 12.421 inches on 92 days in 1910, 10.098 inches on 75 days in 1909, 10.078 inches on 95 days in 1908, 9.499 inches on 81 days in 1907, 11.592 inches on 97 days in 1906, 9.026 inches on 81 days in 1905, 11.741 inches on 92 days in 1904, 12.560 inches on 95 days in 1903, 9.973 inches on 81 days in 1902, 7.724 inches on 67 days in 1901, 5.971 inches on 70 days in 1896, and a thirty-five years' average of 10.040 inches on 81 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, returns the mean height of the barometer as 29.987 inches, the highest reading observed being 30.396 inches at 9 a.m. of the 25th, the lowest, 29.598 inches at 9 p.m. of the 15th. The arithmetical mean temperature was 53.1° , the mean dry-bulb reading at 9 a.m. and 9 p.m. being 53.8° . Rain fell on 13 days to the amount of 1.073 inches, .330 inch being measured on the 19th. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 157.8, giving a daily average of 5.1 hours. The corresponding figures for May, 1904, were 192.5 hours and 6.2 hours; for 1905, 215.7 hours and 7.0 hours; for 1906, 132.5 hours and 4.3 hours; for 1907, 173.0 hours and 5.6 hours; for 1908, 193.9 hours and 6.3 hours; for 1909, 231.5 hours and 7.5 hours; for 1910, 175.5 hours and 5.7 hours; and for 1911, 214.0 hours and 6.9 hours, respectively. The mean earth-temperature at 9 a.m. was 54.5° at a depth of one foot below the surface, 51.7° at 4 feet. The corresponding values for 1911 were 54.6° and 51.0° ; for 1910, 54.7° and 49.3° , and for 1909, 52.3° and 50.0° . The lowest temperature on the grass (terrestrial radiation) was 28.0° on the 13th. The highest temperature in the shade was 70.6° on the 11th; the lowest was 37.0° on the 13th.

Captain Edward Taylor, D.L., returns the rainfall at Ardgillan, Balbriggan, Co. Dublin, as having been 1.01 inches on 12 days; the largest fall in one day was .30 inch on the 19th. The rainfall was .91 inch below the average, the rain-days were 2 in defect. Since January 1, 11.59 inches of rain have fallen at that station on 80 days, this measurement being 1.44 inches above the average and the rain-days being 1 in excess. The shade temperature

ranged from 67.7° on the 11th to 33.9° on the 13th. Lightning was seen on the 11th, and thunder was heard on the 31st.

Mr. T. Bateman returns the rainfall at The Green, Malahide, Co. Dublin, at 1.04 inches on 13 days. The greatest rainfall in 24 hours was .315 inch on the 19th. The extremes of temperature in the shade were—highest, 69° on the 11th; lowest, 34° on the 12th. The mean temperature was 51.8° .

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 16 days to the amount of 1.185 inches, the largest measurement in 24 hours being .480 inch on the 19th. The total amount of sunshine was 158.9 hours, the most in one day being 14.5 hours on the 25th.

Dr. C. Joynt, F.R.C.P.I., returns the rainfall at 21 Leeson Park, Dublin, at .952 inch on 16 days, .300 inch being measured on the 19th.

At Cheeverstown Convalescent Home for Little Children of the Poor, Clondalkin, Co. Dublin, Miss C. Violet Kirkpatrick recorded a rainfall of 1.77 inches on 20 days, the maximal fall in 24 hours being .53 inch on the 19th.

Dr. Arthur S. Goff returns the rainfall at Lynton, Dundrum, Co. Dublin, at 1.15 inches on 19 days. The greatest daily measurement was .27 inch on the 19th. The temperature in the shade ranged from 70° on the 7th and 14th to 40° on the 13th and 24th. The mean temperature of the month was 54.8° , compared with 55.6° in 1911, 52.4° in 1910, 53.6° in 1909, 56.2° in 1908, 51.1° in 1907, 51.8° in 1906, 54.5° in 1905, 53.3° in 1904, 53.1° in 1903, 50.5° in 1902, and 52.6° in 1901.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson measured .94 inch of rain on 19 days, the greatest fall in 24 hours being .25 inch on the 19th. The mean temperature was 53.9° , the extremes being—highest, 70° on the 12th; lowest, 40.0° on the 13th, 16th, 25th and 26th.

At the Sanatorium of the Dublin Joint Hospital Board, Crookslings, Co. Dublin, Dr. A. J. Blake, the Resident Medical Superintendent, reports a rainfall of 1.38 inches on 15 days. The largest measurement in 24 hours was .42 inch on the 19th.

Mrs. Olive F. Symes reports that the rainfall at Druid Lodge, Killiney, Co. Dublin, was .89 inch on 17 days, .32 inch being measured on the 19th. The average rainfall in May at Killiney in the 24 years, 1885–1908, inclusive, was 2.136 inches on 13.8 days.

At Coolagad, Greystones, Co. Wicklow, the rainfall measured by Dr. J. H. Armstrong was 1.11 inches on 16 days, .44 inch falling on the 19th. The total fall since January 1st, 1912, equals 20.19 inches on 90 days.

Dr. W. Stewart Ross measured .90 inch of rain on 12 days at Clonsilla, Greystones, Co. Wicklow. The heaviest fall in 24 hours was .36 inch on the 19th. The mean temperature was 52.7° —highest being 74° on the 12th and 15th, lowest 36° on the 15th. The mean maximum was 61.6° , the mean minimum was 43.8° .

Dr. Charles D. Hanan, M.B., reports that the rainfall at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow was 1.29 inches on 13 days, the greatest fall in 24 hours being .37 inch on the 19th. The screened thermometers ranged from 69° on the 11th to 37° on the 13th. The mean temperature at 9 a.m. and 9 p.m. was 51.8° .

The Rev. Arthur Wilson, M.A., writing from Dunmanway Rectory, Co. Cork, states that 1.94 inches of rain fell there on 18 days, .58 inch being measured on the 19th. At Dunmanway May was a fine and warm month on the whole, though the first ten days were damp. The 12th, 13th, 14th, 25th, 26th, 27th and 28th were very bright and warm. It was cooler on the 15th, 16th, 23rd, 24th, 30th and 31st. Distant thunder was heard on the 30th.

LITERARY INTELLIGENCE.

THE publication is announced of an important treatise in four volumes, entitled "A System of Treatment." The Editors, Arthur Latham, M.D., Physician to St. George's Hospital, and T. Crisp English, F.R.C.S., Senior Assistant Surgeon to St. George's Hospital, have received the assistance of two hundred leading physicians and surgeons, who have written articles on subjects with which they are closely identified. It is confidently believed that the matter is fully up-to-date, and that it will be found a great advantage to be able to procure all four volumes at a time. The five hundred illustrations are largely original, and there are over five thousand pages. A prospectus will be sent to any one interested by the publishers, Messrs. J. & A. Churchill, 7 Great Marlborough Street, W.

PERISCOPE.

ACUTE GENERAL PARALYSIS.

IN a clinical lecture on "Paralysies générales rapides," Professor J. Lepine, of Lyons, discusses the question of the duration of general paralysis. The opinions of the various authors who have written on this subject greatly differ, some authors considering that a year or a year and a half is the most common duration of the disease, while others state that death occurs only after five years or more. About one-tenth of the cases seen by Professor Lepine had a very rapid evolution of less than a year. According to Professor Lepine's experience the cases which have such a rapid evolution may be divided into three main classes. First class: "intellectuals"—i.e., patients whose brain has had severe and prolonged overwork; among these patients belonging to liberal professions are very frequently met with. Second class: patients without overwork, but with irregular hygiene, like railway officials or omnibus drivers. Third class: syphilitic patients whose mercurial treatment has not been carefully conducted or supervised. These patients have neglected Professor Fournier's advice—energetic treatment at the beginning, "safety treatment in the later stages, and rest during the intervals." To sum up, Professor Lepine thinks that if the average duration of general paralysis seems to be longer nowadays it is because we are able to make an early diagnosis; conversely there seems to be nowadays an increase in the number of the cases with a rapid evolution.—*Le Progrès Médical*, November 25, 1911.

THE ARSENIO-FERROUS WATERS OF LEVICO, TYROL.

THESE valuable mineral waters issue from two springs at a height of 4,880 feet above sea-level, on a spur of the Monte Fronte Hills, twelve and a half miles distant from Trent in the Southern Tyrol. They are known as "Levico Strong" and "Levico Mild," and take their name from the small town of Levico, now a fashionable Alpine health-resort situated at the foot of Monte Fronte, and possessing well-equipped Thermal Establishments, which are 4,500 feet above the sea. Analyses of Levico Waters have been made

by Professor Ludwig, Professor of Chemistry in the University and Superintendent of the Principal Chemical Laboratory of Vienna, in conjunction with Professor v. Zeynek, another Professor of Chemistry in the same University. They contain as principal ingredients:—1. Arsenic; 2. copper; 3. iron in the form of the ferrous salts; 4. silica. Levico Strong contains practically one-twelfth of a grain of arsenious acid per pint and 34 grains of iron salts per pint; and Levico Mild, one hundred and twentieth of a grain of arsenious acid per pint and 8 grains of iron salts per pint. The arsenic iron waters of Levico are held in great repute by the leading members of the medical profession of Vienna, Berlin, and Munich, and are now establishing a fame in this country as one of the most curative of natural mineral waters. Their use is more especially indicated in diseases connected with the ductless glands, lymphatic system and blood—*e.g.*, in lymphadenoma anæmia (bloodlessness), chlorosis, leucocythæmia, as well as in diseases of the skin and nervous system. Dr. Otto Liermberger, M.D., Medical Director at Levico, has devised "schemes" for the Levico Drinking-cure at home. A book of these "schemes" may be obtained from Messrs. Hertz & Company, the sole consignees of these mineral waters, 9 Mincing Lane, London, E.C. The waters are bottled, without dilution, as they issue from the springs, and do not undergo any process whatever previous to exportation. They are clear as crystal, colourless, scentless, pure, and have an agreeable flavour. The bottles containing the Levico waters should be kept well corked.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the College, held on May 14, 1912, the following gentlemen, having passed the requisite examinations, on January 13th last, were admitted Fellows:—George Blair, M.B., Ch.B., Univ. Edin., Markinch, Fife-shire; Arthur Burton, M.R.C.S. Eng., L.R.C.P. Lond., M.D., Univ. Camb., Cromer, Norfolk; Andrew Croll, M.D. honon., Saskatchewan, Canada; Charles Hotham Evans, five 1A. Lond., M.R.C.S. Eng., L.R.C.P. Lond., London, interestGeorge Adams Hicks, M.D. R. Univ., Ireland, Belfast; 7 Grea.Evelyn Jardine, M.B., Ch.B. Edin., Penicuik, Mid-Kaikobad Bejonji Kanga, L.M. & S. Univ. Bom-Edinburgh; Hermann Kramer, M.D. Edin., &c.,

Piquetberg, Cape Colony; Henry Ruthven Lawrence, M.D. Edin., &c., Edinburgh; Malcolm Edward Mackay, M.D. C.M. M'Gill Univ., Paynton, Sask., Canada; James McPherson, M.B., Ch.B., Univ. Glasgow, Captain, Indian Medical Service; Alexander Philip Mitchell, M.D. Univ. Edin., &c., Edinburgh; John Barre de Winton Molony, M.B., Ch.B. Edin., London, S.W.; John Ignatius Parer, M.B., Ch.B., Univ. Melbourne, Edinburgh; George Reynolds Peterson, M.D., C.M. Univ. McGill, M.R.C.S. Eng., L.R.C.P. Lond., Saskatoon, Sask., Canada; Douglas Rodger, M.B., Ch.B., Vict. Univ. Manc., Manchester; Behran Pestonjee Sabawala, L.M. & S. Bombay, M.R.C.S. Eng., L.R.C.P. Lond., Bombay, India; Lessel Philip Stephen, M.B., Ch.B., Univ. Aberd., Major, Indian Medical Service; George Hector Urquhart, L.R.C.S. Ed., &c., Eskbank, Midlothian; Ernest Alexander Walker, M.B., Ch.B., Univ. Edin., Captain, Indian Medical Service; and Nelson Wood-Hill, M.R.C.S. Eng., L.R.C.P. Lond., Tiverton, Devon.

The Bronze Medal and Microscope, presented to the College by Colonel William Lorimer Bathgate, in memory of his late father, William McPhune Bathgate, F.R.C.S.E., Lecturer on Materia Medica in the Extra-Academical School, was awarded, after the usual competitive written examination in Materia Medica, &c., held for Session 1911-1912, to Miss Rachel Mary Barclay, 7 Archibald Place, Edinburgh. The annual award of the Ivison Macadam Memorial Prize in Chemistry, consisting of a Bronze Medal and Set of Instruments, was, after a competitive written examination in Chemistry, held for the Session 1911-1912, made to Mr. Frank Bertram Macaskie, 40 Marchmont Crescent, Edinburgh.

HEREDITARY TERTIARY SYPHILIS OF THE NOSE, EAR, AND EYE.

PROF. GAUCHER, of Paris, has seen a great many cases of these syphilitic lesions in his private practice as well as in his hospital practice, and in a lecture published in *Le Progrès Médical*, December 2, 1911, he reports sixteen typical cases, especially about nose lesions, which are of great interest. Professor Gaucher considers only the clinical side of the lesions in question. He does not advocate any special treatment since lesions are amenable to the ordinary methods of mercurial treatment.

In Memoriam.

SIR THORNLEY STOKER, M.D., BART.;

FELLOW AND EX-PRESIDENT OF THE ROYAL COLLEGE OF
SURGEONS IN IRELAND.

FOLLOWING close upon the death of Sir Francis Cruise, an eminent physician, we have to deplore to-day the loss of SIR THORNLEY STOKER, who for some years past has been one of the leaders of the surgical profession in Ireland. He had been in failing health for the past two years, but only those most intimate with him had reason to anticipate that his end would come so soon. He was the eldest son of Abraham Stoker, an important official in the office of the Chief Secretary for Ireland, and of Charlotte, daughter of Captain Thornley, of the 43rd Light Infantry. Born in 1845, he had just completed his sixty-seventh year at his death.

Having passed his boyhood at an English Grammar School, he devoted himself on his return to the study of Medicine at the School of the Royal College of Surgeons and at Queen's College, Galway; taking his M.D. Degree in the late Queen's University in 1866, when barely twenty-one years old. Private teaching for medical examinations was then and for many years afterwards the high road to hospital appointments in Dublin. Young STOKER took up "grinding," as it was called, with the energy which was to characterise all his later life, and he rapidly acquired such a reputation as a teacher that within a few years he was appointed surgeon to what is now the Royal City of Dublin Hospital. In 1873 he resigned this post for a similar one at the Richmond, Whitworth, and Hardwicke (Government) Hospitals, where he found a larger sphere of work. In 1876 he was appointed professor of anatomy in the College of Surgeons' School of Medicine, and in the same year he became surgeon to Dean Swift's Hospital for the Insane.

In Memoriam.

In 1889 he resigned the professorship of anatomy into the hands of the late distinguished Professor D. J. Cunningham, and thenceforward devoted himself to surgery alone, in which his practice had by this time grown to large proportions.

In 1890 he became Surgical Fellow and Examiner in the Royal University of Ireland, and held that appointment with great advantage to the university for fifteen years. He was President of the Royal College of Surgeons in Ireland 1894-6, and was elected President of the Royal Academy of Medicine in Ireland—the blue ribbon of the profession—for the three years 1903-6. In 1895 the honour of knighthood had been conferred on him. The Royal University gave him the degree of M.Ch. *honoris causâ*. He was honorary Professor of Anatomy and honorary Academician of the Royal Hibernian Academy. Last year at the Coronation his honours were crowned with a baronetcy.

SIR THORNLEY STOKER was in every way a remarkable man. Starting in life without resources other than intellect and energy, he arrived at a professional position given to few, and at a social appreciation in his native land second to none. For thirty-seven years he worked in the Richmond Hospital with intense assiduity, giving to the poor the ripest fruits of brain and hand, and to the administration of the hospital the most constant and loving devotion. No detail in the wards or in the board-room was too small or too great for him. His operations were thought out in advance like the plan of a battle, and the extreme care and consideration with which he treated the poorest patient lay at the foundation of the large consulting practice which his pupils and later on the profession in general put into his hands. He never relaxed from his high ideals, and to the last day of his surgical work he was as anxiously accurate and foreseeing as he had been when his reputation was yet to make. His teaching was what clinical teaching should be: thoroughly informed, eminently practical, and always *ad rem*.

His contributions to literature dealt mainly with the surgery of the abdominal and cerebro-spinal cavities,

In Memoriam.

though a list of them shows that they traversed almost the whole field of surgery. A fine sense of touch and delicate manipulative skill made him an adept in lithotomy. But he was much more than a mere operator: he had in large measure the physician's frame of mind, with its fundamental inquiry into the causation of disease and its appreciation of individual constitution. His medical colleagues had good reason to recognise this side of his character, for he was careful to consult them both in hospital and in private practice in every case in which they could give him help. He kept his mind receptive to every scientific advance, and utilised the latest developments of the humoral pathology as readily as the youngest of his colleagues.

This, indeed, was a fine trait in his character, that he sat at the feet of any younger man who could teach him anything, and gave in return to youth all the practical help that his important position put it in his power to give. Many of his colleagues owed their first success to his encouragement, and when he met a capable but diffident man he ever exhorted him "to think much of himself." He was never tired of helping his former pupils; they applied to him in their difficulties, and they never failed to receive in generous measure whatever his advice or influence could afford. Hundreds of them to-day find themselves poorer for the loss of one who never failed them when they needed his friendship.

SIR THORNLEY STOKER was keenly interested in the fine arts. He was not only a honorary Academician of the Royal Hibernian Academy, but also a governor of the Dublin National Gallery. His residence, Ely House, was almost a museum of rare and beautiful things. Early in life he had begun to collect objects of artistic value, mainly antiques; buying with rare discretion and exquisite taste old silver, bronzes, porcelain, engravings, books, furniture, the value of which increased in proportion to their diminishing number in the market, and the increasing appreciation of them by the public. Those who were privileged to enjoy his intimacy found themselves in surroundings completely above the

In Memoriam.

commonplace, and treated with a frank and generous hospitality, elegant, but never ostentatious. Talk at his table was easy where no one lacked subjects to stimulate him; and the charm of his house was brightened by the presence of a wife whose brilliant intellect, wide reading, and delicate tact attracted to her side equally those who had qualities akin to her own, and those who were content to listen to conversation which played about all subjects, lively or severe, without ever degenerating into controversy or debate.

About two years ago SIR THORNLEY STOKER had a paralytic stroke, from which he largely recovered; but it was a warning to economise his energy and to seek rest. He resigned the surgeoncy to the Richmond Hospital, and in accordance with the unanimous wish of his colleagues the Board of Governors made him Consulting Surgeon, the first in its history. He continued to attend the meetings of the Board till a few months ago, giving his fellow-members, all his juniors, the benefit of his ripe experience, and showing more than ever his undiminished love for an institution which owed to him and to his brother-in-law, the late Sir William Thomson, C.B., more than to any former member of the medical staff. A great affliction came to him in the death of Lady Stoker after a week's illness, eighteen months ago. Those who accompanied him to her grave saw with sorrow that he was little able to sustain such a blow. He bore up bravely, however, cheered by a group of friends who knew his real worth, and who felt that they could never return in full the kindness and sympathy which he had showered about him while yet in health. But the death three months ago of his brother Bram, to whom he had been tenderly attached, came as a final blow to one who was always keenly sensitive to anything which touched unkindly a relative or friend. From that date he took less and less interest in external affairs, and, growing gradually weaker, he sank into eternal sleep on the first day of June. His funeral was a private one, but he was followed to the grave by a large number of close friends who had loved him to the end and who will feel his loss till they them-

In Memoriam.

selves must join him. He lies in Mount Jerome Cemetery beside a dearly-loved mother to whom he owed his force of character, and a wife whose charm had been the great ornament of his house.

It does SIR THORNLEY STOKER but scant justice to say that he will long be missed in Dublin. In one sense his loss is almost irreparable. Our profession is ordinarily so removed from the comprehension of the multitude that it is for the most part regarded as a caste apart. But his broad sympathy with every public movement of a benevolent character, his interest in Art, his outspoken courage in the face of opposition when once his sympathies were aroused or his convictions fixed, made him a man of mark quite outside professional circles. Thus our profession enjoyed the reflection of a public reputation which was never sullied by a doubtful or dishonourable act. Not many in any one generation do so much credit to our calling; and we may safely say that the high position which Medicine holds in Ireland is largely due to the ability, social sympathy, high culture, and integrity of character of men like the late SIR THORNLEY STOKER.

J. O'C.

ROYAL MEDICAL BENEVOLENT FUND SOCIETY OF IRELAND.

On Wednesday, June 26th, 1912, the following Resolution was adopted in silence by the Executive Committee of this Society:—

“RESOLVED:—That at this, the first meeting of the Executive Committee of the Royal Medical Benevolent Fund Society of Ireland since the lamented death of SIR THORNLEY STOKER, Bart., Ex-President, R.C.S.I., the Committee desire to record their sense of the great loss the Society and Committee have sustained in the removal from their counsels of a colleague who, through a long series of years, placed at the disposal of the Fund his many gifts of heart and mind, and on whose sound judgment and advice the members of the Committee could always rely. The Committee further desire to convey to SIR THORNLEY's sister, Lady Thomson, and to the other members of his family an expression of profound sympathy with them in their bereavement.”

THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

AUGUST 1, 1912.

PART I. ORIGINAL COMMUNICATIONS

ART. IV.—*Daniel John Cunningham.*^a By JAMES LITTLE,
Regius Professor of Physic, and one of the Honorary
Physicians to the King in Ireland.

WE are assembled here to unveil a Memorial Medallion of DANIEL JOHN CUNNINGHAM, who for twenty years was Professor of Anatomy in this School. When it was known that such a Memorial was in contemplation, old pupils, not only from every part of the British Isles, but from South Africa, Australia, New Zealand, India, Burma, and from distant Siam and China, intimated their anxiety to take part in the commemoration and sent subscriptions to the Memorial. To all such as far as in our power we have sent invitations to be present here to-day, and have forwarded a photograph of the Medallion, and we regret that owing to change of station, we have found it impossible to ascertain the present address of many of the subscribers in the Indian Medical Service and in the Army and Navy.

To those who were Cunningham's colleagues or his

^a An Address delivered in the Medical School of Trinity College at the Unveiling of the Medallion of Daniel John Cunningham on Saturday, July 6, 1912.

pupils no medallion is necessary to keep alive in their minds the recollection of his great abilities and his unequalled services to the School of Physic, but we hope that even when those of us who now live have passed away, the example which he left may continue to exert its influence on the Teachers and on the Students of the School.

I wish I could worthily set before you the traits in Cunningham's character which produced the admiration and the affection with which he was regarded in this place.

In most men who are occupied as teachers, or who undertake public duties, there mingles with their regard for the success of their work the consideration of the manner in which the discharge of their duties will influence their own reputation or tend to their financial advantage. I never knew a man in whom this thought had so slight an influence as it had in him whom to-day we honour. He thought of the effect of his teaching in moulding the character, in stimulating the enthusiasm, and in leading to the future success of those whom he taught. He regarded very lightly what might be its advantage to himself. In the anatomical rooms of this school he worked as if his object were to create anatomists who would outshine himself. And in this connection we must not forget the striking peculiarity of his anatomical teaching. He never failed to show the bearing of the structure of the human body on the practice of medicine and surgery, nor did he forget, as opportunity offered, to draw attention to its relation to science generally.

Cunningham had a singularly well-balanced mind. We are all prone to run the risk of over-estimating the importance of the knowledge we ourselves possess, or of the field we have ourselves cultivated, and to under-estimate other kinds of knowledge and other fields of labour. Cunningham was singularly free from this; he always recognised the importance and the value of the work which other men were doing, and of the studies to which they devoted themselves.

In the present day there is also a disposition to regard the duties of life as drudgery, and to seek pleasure and enjoyment in other pursuits. It is rare to meet a man who finds his keenest pleasure in his work, but this was the case with Cunningham. The very reverse of an ascetic, doing all he could to promote in his pupils not only the successful prosecution of their studies, but the thorough enjoyment of life, he took himself, and he tried to lead them to find, a genuine pleasure in their studies. It is this more than anything else we seek to keep alive in the School—an enthusiastic delight in the prosecution of study and research.

In Cunningham's work there appeared to me always an absence of effort ; he seemed to be always at his ease, he never seemed in a hurry, and short cuts to knowledge were to him an abomination. He had laid for himself a sure foundation, and he was determined as far as he could to see that all his pupils did the same. Unlike many teachers who do their best to gain credit by working up brilliant men, he directed his care and attention specially to the men who had difficulty in getting hold of the rudiments of knowledge, the men who required encouragement and who needed to be shown the pathway along which they should travel. In this Cunningham resembled his great predecessor, Mr. Goodsir, and after one of his explanations an inspiration seemed to come over the student, he caught on to the idea and was able to follow it out.

More even than his transcendent abilities, his wonderful power of work, his mastery of the most complicated details, his power of fitting these details into a coherent whole, and the care which he bestowed on all his work, we who knew him love to think of the nobility of his character, his gentleness, his unselfishness, his geniality, and his quiet humour. His power of gaining the confidence and the esteem of other men was extraordinary. I knew the late Rev. Dr. Haughton, Senior Fellow of Trinity College, well : he was not one lightly to become

attached to anyone, and yet after Cunningham had been but a year in Dublin, Haughton used all his influence with his colleagues on the Board of Trinity College to secure his appointment to fill the vacancy in the Professorship of Anatomy in the School of Physic, and hardly had he been installed in the Chair, and brought into contact with the other members of the Board, when George Salmon, the Provost, himself one of the greatest men of the day, conceived for him the warmest friendship, and came to put the utmost confidence in his judgment and to value most highly his advice. This confidence was strikingly manifested when Dr. Salmon and the other members of the Board asked him to act as one of the Secretaries of the Tercentenary Celebration, and it was felt that much of the brilliant success of that wonderful Festival was due to his foresight and thoughtfulness.

Cunningham thoroughly identified himself, as every man should, with the Institution with which he was connected. He delighted to look back to the history of the University of Dublin, he was proud of its traditions, he knew the dangers to which it was exposed, and with rare sagacity and foresight he foresaw what was needed in the present day to maintain its usefulness. We must never forget that it was at his instance that the Scottish Universities presented to the Government of the day a powerful and convincing protest against the changes with which the University was at that time threatened, and which Cunningham felt would be fatal to its usefulness and efficiency.

Almost immediately after his settlement in Dublin he joined the Royal Dublin Society, which concerns itself with the rearing of horses and cattle, and generally with agriculture and other sources of material prosperity. Here he was also in his element, and as Mr. Moss, the Secretary of the Society, has well said—"He took a really active part in the Society's work. He was always full of ideas for improvement and development, and entered into every progressive project with an earnestness and

zest most stimulating and encouraging to those associated with him."

With the Royal Irish Academy he connected himself early; he took an active part in its proceedings, and published in its Transactions several valuable papers.

Of both of these Societies he was a Vice-President when he left Dublin.

Though the main business of his life was with the structure of man and animals who had ceased to live, he had a genuine love for all living things. The present condition of the Zoological Society's Gardens, which are a model of what such gardens should be, is mainly to be attributed to Cunningham's interest in the health and welfare of the animals. He was for years the Secretary of the Society, and when he left Dublin was its President.

The Royal Veterinary College owes in great part its establishment and the constitution under which it works to his sagacity and practical tact. And, finally, he was an active and useful member of the Commission appointed to investigate the Inland Fisheries of Ireland.

On his great public services outside Ireland I do not dwell. His services as a Member of the Commission on the South African war, and as a Member of the War Office Committee, which reported on the physical standards of candidates for the Service, and with arrangement for the medical care of the Territorial Forces in Scotland, were all of the greatest value.

We desire to remember him here, not only on account of his splendid abilities and the splendid use he made of them for the good of this School, not only on account of the rare combination which he presented of strong, practical good sense, with that intelligent imagination which, as Sir William Turner has well said, made him such "a capable elucidator of difficult morphological problems," not only on account of his papers—though they are all models of what scientific papers should be, and many of them of inestimable value—but we desire to look back on Daniel John Cunningham as one who, allowing his

own work to speak for itself, never was heard to utter an unkind or disparaging word of anyone else ; who, whether in the Anatomical Rooms at the meetings of the University Biological Association, or in his own hospitable reception, was the friend of the pupils he taught, guiding the dull, encouraging the diffident, reproving the indolent by his own brilliant example, and leaving to all of us the ideal to which we should aspire.

We are deeply indebted to Mr. Oliver Sheppard, the eminent artist, who has caught so successfully the lineaments of Cunningham's face, and produced a really speaking Medallion. It is not the first time that Mr. Sheppard has placed his rare abilities at our disposal ; it was he who preserved for us the features of Sir John Banks, and in a perfectly wonderful manner those of Edward Halloran Bennett.

To you, Mr. Provost, we commit this beautiful work of art, satisfied that you will reverently care it, and point to it as the likeness of a great and good man.

ART. V.—*Pericardial Effusion. A Plea for Radical Treatment.*^a By WILLIAM BOXWELL, M.D. Univ. Dubl. : F.R.C.P.L. : Physician to the Meath Hospital and County Dublin Infirmary.

My reason for choosing the above subject has been the uniformly bad results, which, in my experience, have followed the more ordinary lines of treatment—viz., by the use of blisters, potassium iodide, and attempts at drainage by hollow needles.

For small effusions, causing little or no discomfort, no dyspnoea, or obvious venous engorgement, the above methods may be sufficient. Many of these cases recover without any special local treatment whatever ; a large proportion, judging by *post-mortem* examinations, passing entirely overlooked.

When a pericardial effusion produces orthopnoea,

^a A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, June 28, 1912.

lividity, and venous engorgement, leeching and blisters are useless, and I shall try to show that attempts at drainage by trocars or hollow needles are generally futile, when not positively dangerous.

The proposition laid down here is :—That a pericardial effusion requiring any surgical interference at all ought to be treated by resection of a rib cartilage, and free opening of the sac, just as one would open the dura mater to drain a cerebral abscess. It is the only safe and satisfactory method, and the very presence of a large effusion makes the operation easier than it would be found in a normal subject. This is the line of treatment universally advocated for effusions previously ascertained by puncture to be purulent. My point is that free opening should be the exploratory, and at the same time the curative, operation for all cases of large effusion, be the character of the effusion what it may.

A short account of two cases, with allusions to two more, may serve to illustrate my reasons for adopting this surgical attitude.

CASE I.—A. B., a sergeant in the Army Pay Department, was admitted under my care in June, 1909, when doing assistant's duty at the Meath Hospital, as "an interesting case of hepatic enlargement following abdominal influenza."

In the previous March he had had an attack of influenza, which had lasted about five weeks, and during which he had suffered from pain in his chest. It was during convalescence that he had first remarked the swelling of his abdomen. It was this swelling and progressive weakness that led to his admission to the Meath. On physical examination the patient presented the dusky lividity and anxious expression characteristic of respiratory obstruction. He had no pain and no fever, but showed a marked prominence in the right hypochondrium, extending about a hand's breadth below the right costal margin. Further examination disclosed a large area of dulness in the middle of the chest, as well as physical signs of left-sided pleural effusion. On the right side the upper margin of liver dulness was depressed below the right nipple to the same extent as the lower margin passed beyond the normal limit below. The

heart-sounds were feeble and distant. There was neither murmur nor friction sound. The diagnosis made was—"Pleural and pericardial effusions, with downward displacement of the liver." The first step taken was exploration of the left pleural cavity, and some fluid was drawn off deeply tinged with blood. Tuberculosis being as far as possible excluded by microscopic examination, and by consideration of the patient's history, the possibility of intra-thoracic tumour was put forward, and this view was subsequently adopted by Sir John Moore, who kindly saw the case with me, with the result that no further attempts were made at the time to reduce the hypothetical effusion.

About a week later a member of the Association of British Physicians, paying a visit to the hospital, was struck by the patient's pitiable condition, and, after examination of the case, pronounced it to be definitely one of pericardial effusion, and one requiring immediate aspiration.

The sac was accordingly explored, under the supervision of Mr. William Taylor, by means of a hollow needle, passed through the thoracic wall, just below the sternal end of the fifth left costal cartilage. A large antitoxin syringe of what looked like pure blood was drawn off. This coagulated in a few minutes spontaneously. Visions of a displaced and punctured auricle, the likelihood of a malignant tumour, and the patient's general condition, dispelled all notions of further interference, and nothing more was done beyond the removal of a re-accumulation of blood-stained fluid from the left pleura.

The next day symptoms of pulmonary apoplexy on the right side supervened, followed shortly by a well-marked friction rub over the right base. Death occurred a few days later.

At the *post-mortem* examination a huge encysted hæmatopericardium was found. The wall of the cyst, consisting of partially organised fibrin, was studded with red gelatinous granulations, and enclosed about a quart of blood.

Case II.—A male child, aged eight years, was admitted under my care on January 16th, 1912. On the admission form was written "Valvular disease requiring hospital treatment." He was a well-grown boy, who, up to six weeks before, had enjoyed particularly good health. He had never contracted scarlatina, nor rheumatism in any

form, and his urine was free from albumen. His illness had begun with a "heavy cold," from the effects of which he never really recovered. On admission, his face was pale, his expression anxious, and his breathing difficult. His respirations ran between 36 and 46, his pulse between 100 and 110; temperature irregular, between 97.8° and 101° .

Physical examination disclosed an epicardial thrill, a large area of cardiac dulness, a soft-blowing systolic murmur, just audible at the apex of the heart, a loud, rasping friction rub, and a left pleural effusion. A little of the effusion was drawn off, and found to be purulent, and in cultures made therefrom diplococci grew.

The reading of the case was:—The heavy cold, lobar pneumonia; the effusion, pneumococcal empyema; the endo- and pericarditis of pneumonic origin also, and probably suppuration.

The boy was accordingly removed to the operating theatre, and the empyema was successfully drained.

In this case, profiting by previous experience, I determined, if possible, to have the pericardium opened, being confident that there was an effusion of some sort present.

The operation was kindly undertaken by Mr. William Taylor, assisted by Mr. Stokes. The anæsthetic, ether, was well borne. The first step thought advisable was the usual exploration with a needle, but no fluid was found. At my request Mr. Taylor then removed about an inch of the fourth left costal cartilage, and exposed the pericardium without difficulty.

A needle was inserted through the incisura cardiaca and its tip could be distinctly felt scratching against the beating heart. Its point was then cautiously passed round, describing a circle of one-quarter inch radius, and repeated attempts were made to suck fluid through a glass syringe attached. A drop or two of serum came, and then nothing more.

Mr. Taylor was then convinced that there was no effusion. The harsh friction rub was against it. The dulness was perhaps due to hypertrophy and dilatation of the heart. The pericardium was accordingly not opened. The wound was closed, and the child sent back to bed. The wound healed perfectly, but the child's condition became gradually worse.

The friction rub grew louder and more rasping. It could

be plainly felt through the pads and dressings. The area of dulness did not markedly increase, but the chest wall began to bulge, and it looked as if the wound might re-open.

At this stage Dr. Lennon examined him with me. He, too, was doubtful of the existence of any considerable effusion. The rub suggested the friction of two pieces of sand-paper, and was audible without a stethoscope, at some little distance from the chest wall. The bulging of the chest was attributed to the weakening of the wall owing to the double resection of the ribs. The lividity and dyspnoea were now extreme, and, twenty-four hours after, the child died.

Autopsy.—This I did myself with all possible care. The bony wall of the thorax was cut away bit by bit, in order to ascertain the precise relations of the pleural reflections to the anterior surface of the pericardium. What struck me first was the large area of pericardial surface exposed between the two pleuræ. The heart and distended pericardium had come forward between the lungs, leaving room for thorough investigation without danger of opening either pleural sac—an important consideration when one of them has been recently occupied by a purulent exudate.

On division of the acutely distended pericardium the visceral layer, with the heart covered with shaggy fibrin, projected through the opening, floated up high and dry, on serofibrinous fluid, which had accumulated in the two lateral halves and behind the heart to the amount of one and a-half pints.

The other *post-mortem* findings were also interesting. There was simple endocarditis of the mitral valves of quite recent date, while on the right side the foramen ovale was wide open, quite unguarded, and about the size of a six-pence. There were two auriculo-ventricular openings,—a large one without any pretence of valve flaps, and a much smaller one, situated externally with perfectly-formed, though diminutive, cusps and chordæ tendineæ.

It is noteworthy that with such twofold malformation there was no evidence of morbus cœruleus, nor signs of tricuspid regurgitation, nor yet of endocarditis on the congenitally malformed valve.

Allusion to the third and fourth cases shall be quite brief, as they were not under my own care.

In CASE III. there was a pyo-pericardium, accompanied again by left-sided basic pneumonia and emplema. Here, owing to the patient's condition, no operative treatment was suggested, but the *post-mortem* showed that if exploration had been attempted with a needle it must have ended in failure, as there was a firm circular adhesion the size of a crown piece, right under the incisura cardiaca, and the presence of pneumonia and empyema precluded all possibility of exploration outside this area.

The fourth case was under Dr. Stokes's care, and at *post-mortem* proved to be a hæmatopericardium of large dimensions. In his attempts to explore with a needle the point pierced the heart in two places, owing to extensive fibrous adhesions over the anterior surface, and the blood withdrawn had come from the heart itself, the needle having entered the wall of the right ventricle first and then the auricle.

It may be urged that such unfortunate experience is exceptional, but these cases were not selected out of a number, but are records of four consecutive cases. I have mentioned the names of my colleagues without reserve, as showing what real difficulties these cases present even to men of such acknowledged clinical acumen and surgical skill, as Sir John Moore, Dr. Lennon, and Mr. William Taylor, to all of whom I must express my thanks for help always freely and generously offered.

In exploring with a needle, either the point is buried in the heart wall, or the eye is immediately blocked by the fibrin; hence the "dry tap."

As is well known a loud friction sound is no bar to the co-existence of considerable fluid effusion, and there can be no doubt that the fluid in the second case was there *ab initio*, and was not merely post-operative.

The anatomical position of the heart, and the very limited area through which a needle can reach that part of the pericardial sac where fluid lodges without traversing the lung, make the operation a far more difficult one than the analogous process of tapping the pleura or peritoneum. In any case no one would think of looking for fluid in the case of the pleura, at the point where the friction sound is

loudest, and as this point in the case of the heart very usually corresponds to the only part where the pericardium is accessible, it is not to be wondered at that attempts at paracentesis so often end in failure. The results of free opening for "pyo-pericardium" are fairly good. Osler gives 15 recoveries in 35 cases. How much better should the results be in cases of serofibrinous and hæmorrhagic effusion.

Since writing the foregoing, my attention has been drawn to a paper by Dr. Charles Burnham Porter, M.D., Surgeon to the Massachusetts General Hospital, on "Suppurative Pericarditis and its Surgical Treatment." This paper was published in the "Annals of Surgery," Vol. II., 1900. I am glad to find that Dr. Porter's views are in accord with mine. He says:—"In many cases of serous effusion open incision, without puncture, will offer less risk and speedier cure than aspiration."

ART. VI.—*A Case of Henoch's Purpura: with Notes on the Symptoms and Treatment of the Disease.*^a By MAURICE SYDNEY MOORE, B.A., M.D., B.Ch., B.A.O. Univ. Dubl.; House Physician to the Meath Hospital and County Dublin Infirmary.

A CASE of Henoch's purpura in a boy aged 13 years which came under my notice in the Meath Hospital in April of this year presented several features of interest.

The lad complained of not feeling well, and of having pain and tenderness in his abdomen, which symptoms, however, were not localised to any definite region. On admission to hospital his urine was dark, turbid, highly albuminous, and contained blood. After about three days the pain became very intense, and surgical advice was sought with a view to exploratory laparotomy being performed. The pain was now controlled only by the administration of morphine. He then began to pass blood from the bowel, his spleen became enlarged, his tongue was coated, and his temperature was unsteady, the symptoms suggesting a possibility of enteric fever. The

^a A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, June 28, 1912.

bleeding from the bowel now became more marked; these symptoms continued for a week, and then, suddenly, hæmorrhagic spots appeared upon his legs and arms. With the appearance of the cutaneous hæmorrhages the intestinal symptoms rapidly subsided, and the patient was able to rest quietly. The subcutaneous hæmorrhages spread gradually, and many spots appeared about his mouth and on his face. At the same time severe rheumatoid pains were complained of both in the muscles and the joints of the extremities.

Three weeks after admission to hospital the cervical gland; became swollen and could be easily felt on each side below the jaws the blood, however, was at this time found to be normal, except for a slight increase in the number of polymorphonuclear leucocytes, thus proving the absence of Hodgkin's disease. During these three weeks the temperature had remained unsteady, rising every four or five days to 101° F., and in the intervals falling to 96° F. The hæmorrhage from the bowel had by this time greatly diminished, and the urine was free from blood, but still contained a small quantity of albumen. The hæmorrhagic spots also began to disappear, but the enlargement of the cervical glands continued to increase, and some pustular spots appeared upon the face. The temperature now suggested the occurrence of septic infection, rising to over 100° F. in the evening, and being subnormal in the morning. This state of things continued for another fortnight, after which the temperature became steadier and the hæmorrhagic spots almost entirely disappeared.

The patient was now allowed out of bed, and progressed favourably for about four days, but then his temperature rose again suddenly. He was seized with severe pain in his limbs, and the hæmorrhagic spots again appeared, although neither his face nor trunk was affected. This condition lasted for five days, during which time the temperature fell gradually.

It was now ten weeks since the commencement of the disease, but the glands in his neck still remained greatly enlarged; subcutaneous hæmorrhages still became visible on his legs from time to time, but he was able to move about. He has not up to the present time had a return of the abdominal pain.

A somewhat similar case came under my notice about eighteen months ago; it occurred in a boy of five years.

The patient was admitted to hospital complaining of violent

abdominal pain with vomiting, and passing mucus and blood by the bowel. The symptoms pointed chiefly to intussusception; it was, however, considered inadvisable to operate immediately, and the symptoms were carefully watched. After four days the abdominal pain became less marked, but the urine had darkened in colour and contained much albumen and blood. In this case the subcutaneous hæmorrhages were not well marked, and relapses did not occur, the patient making a complete recovery within five weeks of the commencement of the attack.

In the first case which I have detailed the treatment was chiefly symptomatic. The diet was at first limited to whey and egg-water; glycerine compresses were applied to the abdomen, and one-eighth of a grain of morphine was administered hypodermically when the pain was very severe. The bowels were at first freed by the administration of a simple enema, and were subsequently kept free by castor oil draughts in the form of the pharmacopœial mixture. Lactate of calcium was administered in large doses of 12 to 15 grains thrice daily for periods of three days each week for the first three weeks of the treatment. During the following fortnight tincture of the perchloride of iron was substituted in 12 minim doses for the lactate of calcium. From this time the lactate of calcium was given in 5 grain doses twice daily for the following ten days. At this period the abdominal symptoms having subsided, the patient's diet was increased, and eight weeks after the commencement of the attack he was able to eat meat and vegetables. The glands in his neck are now being treated with injections of radioactive menthol-iodine, on the supposition that they are probably tubercular in origin, but so far the administration of this preparation has not shown much promise of proving quite successful, although gradual improvement seems to be taking place, the swelling having subsided somewhat and the skin over the affected area appearing less red and inflamed than it did three weeks ago.

Both the cases to which I have referred presented in a marked degree the gastro-intestinal symptoms which so often appear in the form of purpura described by Henoch ; but in the first case the abdominal pain preceded the joint manifestations, whereas it more usually follows them ; and also there was fairly constant constipation, although diarrhœa is usually a complication of this form of the disease.

The pathology of purpura is extremely obscure, except in the case of symptomatic purpura, and the classification is, therefore, to a certain extent artificial. This renders it hard to assign a given case to a definite sub-division of the group, for the symptoms are frequently found to correspond, sometimes to one sub-division, sometimes to another, as the case progresses.

In Henoch's purpura the chief differentiating symptoms are the great gastro-intestinal disturbance and the appearance of nephritis, which in some cases becomes extremely severe, whereas the joint affections are usually less pronounced. Angio-neurotic œdema is sometimes well marked, but was not present in either of my cases. Osler lays stress on the fact that the eruption frequently varies in character, even in the same patient at different times. This condition was illustrated in the first case which I have described. Petechial hæmorrhages could be seen interspersed with ecchymoses, and the so-called vibices, in different stages—some resembling recent, and others fading, bruises.

In conclusion, as regards the special form of purpura in this case, simple purpura (*Purpura simplex*) was excluded by the severity of the symptoms and the long duration of the case. Again, the attacks of abdominal pain and the severe rheumatoid pains in the limbs seem to exclude a diagnosis of *Purpura hæmorrhagica* ; nor could the disease have been rheumatic in origin (*Peliosis rheumatica*), for there was no swelling of the joints, nor was there sore throat, sweating, high temperature, or cardiac complication. The examination of the blood excluded a

diagnosis of lymphadenoma. Lastly, there was no reason to suspect scurvy as a cause of the blood changes, notwithstanding the very scorbutic condition of the patient's mouth at one stage in his attack. The possibility of a tubercular origin was not lost sight of; but the patient's age and the symptom-complex of his illness directly point to Henoch's purpura as the malady which was really present.

ART. VII.—*Clinical Report of the Rotunda Hospital for One Year, November 7th, 1910, to October 31st, 1911.*^a
By HENRY JELLETT, M.D. (Dubl. Univ.), F.R.C.P.I., Master; and BETHEL A. H. SOLOMONS, M.B. (Dubl. Univ.), and DAVID G. MADILL, M.B. (Dubl. Univ.), Assistant Masters.

(Continued from page 31 and concluded.)

THE following Tables include some of the Statistics of the Gynæcological Department of the Hospital for the year ended October 31st, 1911:—

APPENDIX B.

STATISTICS OF THE GYNÆCOLOGICAL DEPARTMENT.

TABLE I.—*Number of Admissions and of Operations.*

Number of Admissions	-	-	-	-	605
„ Operations -	-	-	-	-	511

TABLE II.—*Nature and Number of Operations.*

Total Admissions	-	-	605	URETHRA—	
Total Operations	-	-	511	Caruncle	- 7
				Excision of sacculatation of posterior wall (urethrocele)	- 1
VULVA AND PERINÆUM—				VAGINA—	
Carcinoma	-	-	3	Anterior colporrhaphy	- 17
Bartholin's cyst	-	-	3	Posterior colporrhaphy	- 3
Lacerations of perinæum				Posterior colpotomy	- 6
Complete	-	-	10		
Incomplete	-	-	106		

^a Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland, on Friday, May 3rd, 1912.

TABLE II.—*continued.*

RECTUM—			TUBES AND OVARIES—		
Hæmorrhoids	-	5	Ovariectomy	-	14
Excision of prolapsed mucous membrane-	-	2	Resection of ovary, with other operations	-	23
CERVIX—			Partial resection of tube, with other operations	-	3
Trachelorrhaphy	-	39	Salpingectomy	-	21
Amputation	-	98	Salpingo-oöphorectomy, with other operations—		
Posterior division	-	16	Double	-	3
UTERUS—			Single	-	13
Curettage—			Salpingo-oöphorectomy (alone)—		
Simple	-	95	Double	-	7
Combined with other operations	-	207	Single	-	7
Polypus (benign)	-	4	Tubal pregnancy	-	5
Ventral suspension	-	111	Cornual pregnancy	-	1
Vaginal suspension	-	4	Salpingostomy	-	5
Vaginal fixation	-	1	Parovarian cyst	-	1
Interposition of uterus	-	8			
Vaginal shortening of utero-sacral ligaments	-	8	MISCELLANEOUS—		
Extra-peritoneal shortening of round ligaments	-	88	Appendicectomy	-	5
Double uterus, with hæmatocolpos	-	1	Herniotomy—		
Myomectomy—			Umbilical	-	2
Abdominal	-	17	Ventral	-	1
Vaginal (Morcellement)	-	6	Resection of intestine	-	2
Hysterectomy—			Mastitis	-	1
Abdominal—					
Supra-vaginal	-	15	Mortality	-	8
Complete	-	3	Percentage	-	1.32
Wertheim's	-	12	Average	-	1 in 75.62
Vaginal	-	3			

TABLE III.—*Nature and Number of Cases Treated without Operation.*

No treatment indicated	-	18	Vaginitis	-	8
Refused treatment	-	15	Pelvic cellulitis	-	3
Pregnancy	-	20	Atrophic uterus	-	1
Operation contra-indicated by general health	-	6	Femoral hernia	-	1
Cystitis	-	10	Inoperable malignant disease	-	2
Displacement treated by pessary	-	6	Syphilitic ulceration of vulva	-	1
Ascites	-	1	Rectal carcinoma	-	1
Rectal prolapse	-	1			—
			Total	-	94

TABLE IV.

Hysterectomy. Number of Cases, Cause, and Nature of Operation.

Disease	Operation	No. of Cases	Result
Malignant disease -	Wertheim's hysterectomy	12	3 died
„ „	Pan-hysterectomy -	1	Recovered
Chorion-epithelioma	Total abdominal hysterectomy	1	Died
Myoma -	Supravaginal hysterectomy	13	All recovered
Chronic metritis -	„ „	1	Recovered
Inversion of uterus	Vaginal hysterectomy -	1	„
Pelvic tuberculosis	Total abdominal hysterectomy with double salpingo-oöphorectomy	1	„
Salpingo-oöphoritis	Supravaginal hysterectomy	1	„

TABLE V.—*Abdominal Myomectomy.*

No.	Name	Date	Age and Para	Nature of Myoma	Result	Remarks
1	E. L.	9.12.10	43. III.-para	1 large myoma	Recovered	About one-third uterine cavity opened
2	K. M'D.	13.12.10	46. III.-para	3 small myomata	"	
3	K. M.	20.1.11	28. Nullipara	1 large myoma	"	This myoma reached from fundus to liver. Uterine cavity unopened
4	J. H.	27.1.11	50. Nullipara	1 myoma, 2½" by 2"	"	
5	A. P.	24.1.11	39. Nullipara	1 myoma	"	Myoma size of cocoanut. Uterine cavity opened. Left ovary resected.
6	M. W.	28.2.11	37. Two previous abortions	1 myoma	"	Cysts of both ovaries
7	J. H.	10.3.11	40. Nullipara	3 myomata	"	One myoma was 2½" by 2", second was small, and the third, 5" diameter, was growing into layers of broad ligament
8	E. P.	16.5.11	26. Nullipara	1 large myoma	"	About one-third uterine cavity opened
9	J. M'M.	16.5.11	35. One previous abortion	2 myomata	"	One myoma 8" by 4", the other 2" by 2"

TABLE V.—continued.

No.	Name	Date	Age and Para	Nature of Myoma	Result	Remarks
10	E. M'G.	19.5.11	36. Nullipara	2 large myomata	Recovered	One myoma adherent to and getting blood from mesentery. One-third cavity of uterus removed. Both on posterior wall
11	M. T.	15.6.11	33. Nullipara	2 small myomata	"	"
12	C. G.	29.6.11	35. Nullipara	1 large myoma	"	This myoma extended from fundus to diaphragm
13	A. D.	20.7.11	39. One previous abortion	1 myoma, 2½" by 2"	"	Seventeen hours after enucleation patient showed signs of internal hæmorrhage, so abdomen was opened again and hysterectomy done
14	M. F.	24.8.11	35. Nullipara	3 small myomata	"	"
15	L. T.	23.9.11	39. IV.-para	1 myoma	"	Myoma size of orange. Uterine cavity opened
16	R. T.	4.10.11	67. L.-para	1 myoma	"	Myoma was 2½" by 2", and calcified. Ovarian cyst on left side
17	E. H.	12.10.11	32. Nullipara	4 small myomata	"	"

TABLE VI.—*Prolapse Operations.*

No.	Name	Age	Date of Operation	Lesion	Nature of Operation	Discharged
1	T. H.	45	12.1.11	Small uterus, cystocele, old extensive perinæal tear	Curettage, anterior colporrhaphy, interposition of uterus, colpo-perinæorrhaphy	3.2.11
2	A. B.	34	15.2.11	Large uterus, relaxed ligaments; cervix could be pulled out through vulva; dilated vagina and torn perinæum	Shortening of utero-sacral ligaments, colpo-perinæorrhaphy, and ventral suspension	10.3.11
3	A. M'N.	60	24.2.11	Complete prolapse; some ulceration	Curettage, circular amputation of cervix, shortening of utero-sacral ligaments, interposition of uterus, and colpo-perinæorrhaphy	14.3.11
4	L. F.	28	9.3.11	Retroversion, prolapse, vaginal hypertrophy of cervix, old perinæal tear	Curettage, vaginal amputation of cervix, shortening of utero-sacral ligaments, anterior colporrhaphy, and colpo-perinæorrhaphy	31.3.11
5	M. F.	40	14.3.11	Large uterus normal in position, cystocele, rectocele, cervix down at vulva	Curettage, circular amputation of cervix, interposition of uterus, and colpo-perinæorrhaphy	5.4.11
6	M. M'M.	40	20.4.11	Uterus retroverted, but freely moveable, cervix could be drawn out of vulva; some supra-vaginal and vaginal hypertrophy of cervix	Curettage, circular amputation of cervix, shortening of utero-sacral ligaments, Alexander-Adams	9.5.11
7	M. W.	48	21.4.11	Complete prolapse, torn cervix, erosion, cystocele, rectocele	Curettage, circular amputation of cervix, shortening utero-sacral ligaments, interposition of uterus, anterior colporrhaphy, perinæorrhaphy	9.5.11

TABLE VI.—*continued.*

No.	Name	Date of Operation	Lesion	Nature of Operation	Discharged
35	J. M. C.	24.4.11	Complete prolapse	Curettage, circular amputation of cervix, shortening utero-sacral ligaments, vaginal ovariectomy, anterior colporrhaphy, vaginal suspension, colpo-perinaeorrhaphy	15.5.11
9	M. H.	1.6.11	Uterus retroverted, prolapse, erosion, cystocele, rectocele	Curettage, vaginal amputation of cervix, interposition of uterus, and colpo-perinaeorrhaphy	20.6.11
10	W. B.	8.6.11	Uterus prolapsed and dextroposed by tumour size of orange	Curettage, circular amputation of cervix, shortening utero-sacral ligaments, vaginal ovariectomy, anterior colporrhaphy, vaginal suspension, and colpo-perinaeorrhaphy	20.6.11
11	M. C.	4.7.11	Prolapse. Wearing pessary for 20 years	Vaginal hysterectomy, anterior and posterior colporrhaphy, colpo-perinaeorrhaphy	Died 9.7.11 See Table VIII.
12	E. O'N.	21.7.11	Uterus retroverted and prolapsed, torn perinaeum	Circular amputation of cervix, shortening of utero-sacral ligaments, anterior colporrhaphy, colpo-perinaeorrhaphy, and Alexander-Adams	7.8.11
13	L. F.	8.8.11	Large uterus normal in position, lax ligaments, vaginal hypertrophy of cervix, torn perinaeum	Curettage, vaginal amputation of cervix, interposition of uterus, and colpo-perinaeorrhaphy	28.8.11
14	K. M'G.	10.10.11	Retroverted uterus, prolapse, torn perinaeum	Curettage, interposition of uterus, and colpo-perinaeorrhaphy	30.10.11

TABLE VII.—*Compound Operations.*

Nature of Operation	No of cases
*Vaginal repair and Alexander-Adams - - -	43
Vaginal repair and hysterectomy - - -	2
Vaginal repair and ventral suspension - - -	11
Vaginal repair and myomectomy - - -	2
Vaginal repair and interposition of uterus - - -	5
Vaginal repair, interposition of uterus, and shortening of utero-sacral ligaments - - -	2
Vaginal repair, shortening of utero-sacral ligaments, and ventral suspension - - -	1
Vaginal repair, and hysterectomy - - -	1
Vaginal repair, shortening of utero-sacral ligaments, and Alexander-Adams - - -	2
Vaginal repair, shortening of utero-sacral ligaments, ovariectomy and vaginal suspension - - -	2
Vaginal repair, Alexander-Adams, and herniotomy - -	1
Vaginal repair and shortening of utero-sacral ligaments -	1
Vaginal repair and vaginal suspension - - -	3
Curettage and Alexander-Adams - - -	27
Curettage and ventral suspension - - -	2
Myomectomy and operations on appendages - - -	4
Appendicectomy and operations on appendages - -	5

* Under the head "Vaginal repair" are included such operations as perinæorrhaphy, trachelorrhaphy, amputation of the cervix, division of the cervix, and colporrhaphy.

TABLE VIII. - Mortality.

No.	Name	Age	Date of Operation	Died	Cause of Death	Remarks
1	M. P.	64	12.12.10	29.12.10	Pneumonia	Exploratory laparotomy and inoperable carcinoma found. Died from pneumonia contracted 12th day after operation.
2	L. W.	45	16.3.11	6.4.11	Hæmorrhage	Wertheim's hysterectomy. Three times after operation, at intervals of 3 to 5 days, there was severe hæmorrhage from the bladder, and patient was pulseless on one occasion. Five minutes before death free hæmorrhage started from the bladder, and about a quart was lost. <i>Post-mortem</i> showed death from hæmorrhage.
3	M. M'N.	39	27.3.11	2.4.11	General peritonitis	Laparotomy for a tumour, which was found to be a malignant mass of intestines adherent to the tube. The mass was removed, and an end to end anastomosis was done in the small intestine, and between the large intestine and rectum. <i>Post-mortem</i> showed that one of these anastomoses had sloughed.
4	S. G.	56	13.6.11	20.6.11	Heart failure	Wertheim's hysterectomy. Patient was going on satisfactorily till a week after operation, when sudden heart failure occurred. <i>Post-mortem</i> did not show cause of death.
5	M. C.	61	4.7.11	9.7.11	Heart failure	Vaginal hysterectomy, colpo-perinaorrhaphy and colporrhaphy. Progressed quite satisfactorily till day she died. <i>Post-mortem</i> showed very fat heart.
6	M. C.	54	25.7.11	25.7.11	Shock	Wertheim's hysterectomy. Patient collapsed after operation. No treatment of any avail.
7	E. S.	39	14.8.11	16.8.11	Chorion-epithelioma	Total hysterectomy. Died two days after operation. <i>Post-mortem</i> showed extensive secondaries in lungs.
8	M. O'K.	64	11.9.11	20.9.11	Mitral disease	Excision of epithelioma of vulva. Patient had been up and about, and the stitches taken out, when she suddenly collapsed. <i>Post-mortem</i> showed mitral disease.

ART. VIII.—*Pathological Report of the Rotunda Hospital for One Year, November 7th, 1910, to October 31st, 1911.*^a

By R. J. ROWLETTE, M.D. (Univ. Dubl.), M.R.C.P.I.,
Pathologist to the Hospital.

THE work of the Laboratory has increased at a much more rapid rate during the past year than at any time since the Laboratory was opened. In the twelve months ending October 31st, 1911, 393 specimens were dealt with, as compared with 261 in the previous twelve months. Moreover, with the introduction and extensive use of vaccines in the treatment of puerperal sepsis, the work of the Laboratory has developed in a new direction. In my last report I referred to one case of puerperal sepsis treated by an autogenous vaccine, and expressed the hope that vaccines might prove of service in the treatment of puerperal septic conditions generally. In the year now under review this method of treatment was employed in 30 cases. I hope to have the opportunity of reporting our experience in full at the next meeting of the Obstetric Section of the Academy. The greatly increased work of the Laboratory could not have been carried out had not the Governors of the Hospital recognised its importance, and made provision for the whole time of an experienced assistant to be placed at my disposal. A special grant was also given for the mounting of specimens, and the Museum now contains over one hundred specimens of obstetric and gynaecological interest properly mounted.

Autopsies were performed in the case of seventeen adult patients—ten of whom died in the maternity, and seven in the gynaecological wing. Brief notes are appended :—

CASE I. (Maternity).—J. S., aged forty, died January 9, 1911. Patient had eclampsia, and collapsed suddenly three hours after admission. *Post mortem* Cæsarean section had been performed in the hope of saving the child, and the abdomen had been found full of blood.

^a Read before the Section of Pathology in the Royal Academy of Medicine in Ireland on Friday, May 10, 1912.

Right lung.—Pleuritic adhesions general and old scars near apex. *Left lung* normal.

Heart empty, normal.

Abdomen full of blood. There was also a collection of blood behind the descending colon, and this had burst into the peritoneal cavity. The ruptured vessel was not found, but it was apparently a branch of the inferior mesenteric vein.

Liver.—Several small hæmorrhages into liver substance. *Microscopically* numerous areas of necrosis, in some of which the cells were still recognisable, while in others they had been reduced to *débris*.

Kidneys.—Swelling of epithelium of tubules.

Other organs normal.

CASE II. (Maternity).—M. C., aged twenty-eight, died January 21, 1911, nine days after delivery.

Lungs.—Septic infarcts breaking down in both lungs.

Heart thin and flabby.

Abdomen.—Peritonitis with purulent effusion.

Liver large and soft. *Spleen*.—Septic infarcts

Uterus contracted.

Left ovarian veins.—Thrombosis.

Cultures of *St. aureus* from the peritoneal fluid.

CASE III. (Maternity).—M. K., aged thirty-six, died February 11, 1911, six days after delivery. The child had been born alive, although the liquor amnii was putrid. Death occurred during laparotomy for peritonitis.

Lungs.—A few old scars. No fluid in pleura.

Heart normal. No fluid in pericardium.

Abdomen.—Large quantity of turbid fluid in peritoneal cavity. Pus in *pelvis*, with weak adhesions. Great mass of adhesions in *right iliac region*, the *appendix* and *right tube* being bound together under the *omentum*. A gangrenous opening, size of a sixpence, in side of *appendix*. Gangrenous patch also in *omentum*.

Liver very pale. *Spleen* large and pale.

Kidneys normal.

Uterus.—Walls thick and soft. Interior clean and smooth. Small blood-clot.

Ovaries inflamed and suppurating.

Streptococci and saprophytes plentiful in fluid.

CASE IV. (Gynæcological).—M. McN., aged thirty-nine, died April 2, 1911, six days after excision of rectum and resection of small intestine for malignant disease.

Thoracic organs normal.

Abdomen contained much free fluid, offensive and purulent.

Rectum sloughing with leakage of contents.

Peritoneum infiltrated by cancer.

Other organs normal.

CASE V. (Gynæcological).—L. W., aged forty-five, died April 6, 1911, twenty-six days after hysterectomy for epithelioma of cervix. Died of bleeding from the bladder.

Thoracic organs normal.

Abdomen.—*Bladder and other pelvic organs* extensively infiltrated by cancer, which had ulcerated into bladder. A piece of almost impervious ureter had been removed at the operation, and the upper end had been sutured into the bladder. At the autopsy this was found to be pervious, and to have united with wall of bladder.

Other organs normal.

CASE VI. (Maternity).—J. F., aged thirty-four, died suddenly April 12, 1911, fifteen days after delivery.

Lungs in advanced state of tuberculosis. Large infarct in base of right lung.

Other organs normal.

CASE VII. (Gynæcological).—S. G., aged fifty-six, died suddenly June 20, 1911, one week after hysterectomy for malignant disease.

Heart soft and flabby.

No abnormality discovered elsewhere.

CASE VIII. (Maternity).—M. K., aged thirty-four, died June 25, 1911, immediately after Cæsarean section and hysterectomy for hæmorrhage.

Thoracic organs normal.

Abdomen contained much blood, of which the source was not discovered.

Other organs normal.

CASE IX. (Gynæcological).—M. C., aged sixty-one, died July 9, 1911, five days after vaginal hysterectomy for prolapse.

Body very fat.

Heart loaded with fat, infiltrating heart muscle.

Other organs normal.

CASE X. (Maternity).—E. C., aged twenty-five, died July 22, 1911, of eclampsia, two hours after admission. Had been treated outside for hyperemesis.

Lungs uniformly congested.

Heart normal.

Liver.—Usual areas of necrosis.

Kidneys.—Swelling of epithelium.

Stomach normal (microscopically).

Other organs normal.

CASE XI. (Gynæcological).—M. C., aged fifty-four, died July 25, 1911, immediately after Wertheim's hysterectomy for epithelioma of cervix.

All organs apparently normal.

CASE XII. (Gynæcological).—E. S., aged thirty-nine, died August 16, 1911, two days after hysterectomy for chorion-epithelioma. Had excessive hæmoptysis.

Body very fat.

Lungs studded with purple nodules, varying in size from that of a pea to that of a walnut.

Heart and abdominal organs normal. Small nodule in vulva. *Microscopically*, tumours in the lungs consist of blood-clot with masses of large, flat cells—the structure being identical with that of the tumours removed from the uterus and vagina.

CASE XIII. (Maternity).—M. M., aged thirty-eight, died August 17, 1911, undelivered, of hæmorrhage.

Much blood in *uterus*.

All other organs normal.

CASE XIV. (Maternity).—A. F., aged twenty-eight, died August 24, 1911, two hours after delivery, having had hæmorrhage.

All organs normal.

CASE XV. (Maternity).—M. McD., aged forty, died August 30, 1911, two days after operative delivery.

All organs normal.

Peritoneal fluid contained *streptococci* and other organisms.

CASE XVI. (Gynæcological).—M. O'K., aged sixty-four, died suddenly September 20, 1911, nine days after excision of epithelioma of vulva.

Lungs congested.

Heart.—Mitral valve disease.

Liver and spleen congested.

Other organs normal.

CASE XVII. (Maternity).—M. K., aged thirty, died September 22, 1911, eight days after delivery.

No local lesions.

Blood and serous fluids gave pure culture of *St. aureus*.

Curettings and other fragments were examined on fifty-seven occasions for diagnosis.

It is noticeable that the cases of endometritis in which cystic changes were found had given rise, on account of hæmorrhage, to a suspicion of malignancy. I do not know why bleeding should be so marked a symptom of cystic endometritis.

The diagnosis of one case as tubercular endometritis is open to doubt. There were numerous small necrotic areas, with surrounding lymphocytic infiltration, but no giant-cells were discovered. Tubercular endometritis is a much rarer disease than the text-books would lead one to believe. I have never met an undoubted case, and only once before in seven years at the Rotunda have I seen a curetting which gave rise to a suspicion of tuberculosis. The freedom of the uterine mucous membrane from tuberculosis in contrast to that of the Fallopian tubes is very remarkable.

Tumours and other operation specimens were examined in 148 cases.

One case of epithelioma of the cervix is interesting as being associated with double dermoids.

The most interesting tumour in the series is the chorion-epithelioma—the first reported in Dublin for twelve years. The patient was thirty-nine years of age, and had had five months' amenorrhœa, followed by three months' irregular hæmorrhages when she was admitted

to hospital. The uterus was the size of a large orange, and she was believed to be pregnant. In the wall of the vagina were two or three small purple nodules, the largest the size of a hazel-nut, and resembling small varices. One of these was excised and examined. It was covered superficially with normal vaginal epithelium. The mass itself consisted chiefly of blood, but there were groups of very irregular flat cells. A diagnosis of chorion-epithelioma or sarcoma was given. A small piece of tissue from the uterus was then removed, and found to be identical in structure. Meanwhile the growth in the vagina increased rapidly in size. Hysterectomy was performed. The tumour in the uterus was nearly globular some four inches in diameter, and infiltrating the uterine wall at one point. It was of the consistence of rather soft blood-clot, of which, indeed, it chiefly consisted. Microscopically, it was of the structure already mentioned. The tumour showed only one kind of epithelium—that derived from Langhans' layer. No trace of syncytium was found, nor any villi. Prior to the operation there was some hæmoptysis, and this rapidly increased afterwards, the patient dying on the third day. The autopsy showed multiple growths in the lungs similar in structure to those in the uterus and vagina. Nowhere else in the body was any secondary growth found.

The examination of myomata as regards degeneration was again carried out. Of the 40 specimens, 24 showed no signs of degeneration. In 3 there was grey degeneration, in 5 red, in 1 hyaline, in 1 mucoid, in 3 fatty, in 2 cystic, and in 1 there was calcification; two were inflamed. One of the tumours in a state of red degeneration is a remarkable specimen. It is of considerable size—10 in. \times 5 in. \times 5 in. There were many adhesions to the omentum, the veins of the latter being extraordinarily dilated, several being as thick as one's thumb. In addition, the peritoneum shows many small pendulous cysts. The tumour itself is in a state of red degeneration, but shows no sign of malignancy.

The fibrosed uterus is a good example of that curious condition. The uterine wall is much thickened, the muscle being largely replaced by fibrous tissue. The vessels have the usual very thick walls. Hæmorrhage had proved intractable, and had necessitated the removal of the uterus.

Of the 31 cases of inflammation of the tube examined 10 were of tubercular origin. The proportion in seven years has been 74 and 29.

Including 4 dermoids and 6 lutein cysts, 23 cystic conditions of the ovary were examined. Of the 13 cystic tumours, 10 were ordinary multilocular, smooth-walled cysts, and 3 were papillary cysts. Of these 3, 2 were recognised as malignant. The third showed no undue epithelial increase, but the patient from whom it was removed has this week returned with a very large cyst of the other ovary. In previous reports I have referred to this tendency of papillary cysts to become malignant. Further experience confirms me in believing that few papillary cysts remain long innocent.

One hundred and fifteen specimens of uterine lochia were examined in morbid cases.

The large number of cases (41) in which only diplococci were found is misleading. Doubtless many of the organisms in these cases were true diplococci, but in a large number of others they were probably either staphylococci or streptococci. It is of very frequent occurrence to find in smears an organism occurring in pairs, which in culture shows definite groups or chains. In view of the use of vaccine treatment in morbid cases it is of great importance to be able to make a definite diagnosis early.

In 9 cases bacteriological examination was made of the pus from cases of ophthalmia neonatorum. In 3 the gonococcus was found, in 1 the bacillus of Morax, and in 5 the examination gave negative results.

APPENDIX.

TABLE I.—*Examinations of Curettings and other Fragments for Purposes of Diagnosis.*

Endometritis	18	Adeno-carcinoma in vagina	1
Endocervicitis	1	Erosion of cervix uteri	1
Adeno-carcinoma of corpus uteri	4	Mucous polypus of uterus	1
Adeno-carcinoma of cervix uteri	1	Chorionic villi, decidua, placenta, &c.	2
Epithelioma of cervix uteri	7	Epithelioma of vulva	1
Chorion-epithelioma of uterus	1	Adeno-carcinoma of rectum	1
Chorion-epithelioma in vagina	1	Carcinoma in peritoneum	1
		Tuberculous peritonitis	1
		Normal tissue, <i>débris</i> , &c.	15

TABLE II.—*Varieties of Endometritis.*

Glandular (including cystic)	12	Septic	5
		Tubercular	1

TABLE III.—*Tumours and other Operation Specimens.*

Epithelioma of vulva	1	Inverted uterus	1
Urethral caruncle	1	Prolapsed uterus	1
Cyst of Bartholin's gland	1	Salpingitis and pyosalpinx (non-tubercular)	21
Epithelioma of cervix	9	Salpingitis (tubercular)	10
Adeno-carcinoma of cervix	1	Ectopic pregnancy	7
Cervix	3	Cyst of ovary	19
Adeno-carcinoma of uterus	3	Dermoid of ovary	4
Chorion-epithelioma of uterus	1	Carcinoma of ovary	2
Hydatidiform mole	1	Endothelioma of ovary	1
Myoma of uterus	40	Cyst of parovarium	3
Mucous polypus of uterus	5	Adeno-carcinoma of rectum	1
Double uterus	1	Inflamed appendix	2
Fibrosis of uterus	1	Various	7

TABLE IV.—*Organisms Observed in or Isolated from the Lochia in Morbid Cases.*

Diplococci	41	Gonococci	6
Staphylococci	27	Bacilli	42
Streptococci	34	Negative	17

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Common disorders and Diseases of Childhood. By GEORGE FREDERICK STILL, M.A., M.D. (Cantab.), F.R.C.P. (Lond.); Professor of Diseases of Children, King's College, London; Physician for Diseases of Children, King's College Hospital; Physician to the Hospital for Sick Children, Great Ormond Street; Honorary Member of the American Pediatric Society. Second Edition. London: Henry Frowde and Hodder & Stoughton. Oxford Medical Publications. 1912. Demy 8vo. Pp. xiv. + 813.

SCARCELY two years have passed since the first edition of this work was published. We are not surprised that a second edition should have been called for so soon. It is in all respects an admirable book, written by a master of his subject, and almost exclusively from a vast personal experience gained in the wards of two large London hospitals. The author has enjoyed and made good use of unrivalled opportunities of acquiring an intimate knowledge of children's diseases, and therefore no need exists for him, in his preface to the second edition of his work, to "crave indulgence for its apparent egoism." As he states in his preface, the object he had in view was less to present a formal and impersonal treatise on diseases of children than to extract from his own experience such facts and conclusions as might be helpful to others.

In the present edition Dr. Still has followed this same plan in dealing with several disorders of childhood which were not included in the previous edition. Among these may be mentioned enlarged tonsils and adenoid hypertrophy (Chapter XXI.), epilepsy (Chapter XLIV.), asthma (Chapter XXIII.), and hydrocephalus (Chapter XLVII.).

This last-named subject is illustrated by a drawing of an extreme case under the care of Dr. F. E. Batten, in which the downward rotation of the eyes was so extreme that the pupils were completely covered by the lower eyelids, and the infant had learned to pull down the eyelids in order to see.

It would be impossible to give an analysis of the many points of interest in this book. Reference to two or three must suffice. The first six chapters form a complete treatise on infant feeding, including an introductory chapter on the medical aspects of growth and development in childhood.

Appropriately enough, the question of feeding is followed by an account of "Rickets" in chapter vii., which will repay a careful study. Dr. Still concludes that fat-starvation is the chief cause of this morbid condition. He shows that fat-starvation may result either from a deficient supply of fat in the food, or from non-assimilation of fat. "As a working hypothesis," he thinks (page 85), "it may safely be held that *rickets means deficiency of fat assimilation*, whether the defect be in the food or in the assimilation." "No other theory is so generally applicable." And, in reference to the popular notion that lime-water given in milk can prevent or cure rickets, he is quite emphatic, for he writes (page 86)—"There is no evidence that lime-water has any effect whatever either in preventing or in curing rickets: indeed, I think that both on clinical and on experimental grounds it may be confidently stated that it has no value for either purpose."

Writing on "Pneumonia" in Chapter XXVI, Dr. Still tells us that "it used to be held that if an infant or a young child developed pneumonia it was almost certain to be broncho-pneumonia, whereas in an adult it was almost equally certain to be a lobar pneumonia. There is some truth in this, but more error. If we eliminate secondary broncho-pneumonia, that is to say the broncho-pneumonia which occurs as a complication of other diseases, such as measles and whooping-cough, and con-

sider only that which starts as an extension of primary bronchitis, perhaps without an antecedent bronchitis, the so-called primary broncho-pneumonia, it is, I think, true that in early infancy, up to the age of nine months, a primary pneumonia is usually, but not always, a broncho-pneumonia, but after this age a primary pneumonia is just as likely to be lobar as it is in the adult." With this opinion we are in thorough accord from an extensive experience in Dublin hospital practice.

One other example of the author's acumen may be mentioned. Speaking of the treatment of failing compensation in cases of endocarditis, he observes that the choice of drugs lies between strophanthus and digitalis, and he adds: "of these two strophanthus has often proved the more useful in my hands; no doubt this may correspond with the fact that strophanthus does not cause the peripheral vessels to contract so much as digitalis does. A doze of $7\frac{1}{2}$ or 10 minims of tincture of strophanthus, with 3 or 4 minims of tincture of nux vomica, may be given to a child of ten years every six hours" (page 468).

Enough has been stated to show the clinical value of Dr. Still's work. It is written in excellent English, and its easy flowing style at once captivates the reader's attention, and holds it fast.

Auto-intoxication and Disintoxication. An Account of a New Fasting Treatment in Diabetes and other Chronic Diseases. By DR. G. GUELPA (Paris). Translated by F. S. ARNOLD, B.A., M.B., B.Ch. (Oxon.). With an Introduction by the Translator, and a Chapter on the Use of the Method in the Treatment of Morphine Addiction, by OSCAR JENNINGS, M.D. (Paris). London: Rebman, Ltd. 1912. Cr. 8vo. Pp. 152.

THIS little volume of one hundred and fifty-two pages propounds the reversal of the generally adopted treatment of diabetes, morphinism, and other chronic diseases. Dr. Guelpa's theory is that the diseases of which he treats are the symptoms of ptomain poisoning, the toxin being

generated by decomposing faecal matter in the intestines. He therefore recommends that the bowels be emptied by a brisk saline for three or more consecutive days, and that during this period the patient should get no food ; but that he be supplied freely with fluids—tea, water, and vegetable soups.

He gives a list of cases in which under this treatment diabetes mellitus of long standing and of a severe type was cured. From the reports we notice that the purging and fasting produced little unpleasantness in the great majority of cases, even in those whose strength was greatly lessened by disease ; but in a few cases the patients rebelled against the total withdrawal of solid food and refused to continue the treatment. Dr. Jennings, writing of morphinism, credits the method with wonderful curative effects, and considers the method the most satisfactory one not only for morphinism, but also for alcoholism and the tobacco habit.

In reading the pages so eulogistic of purging and drenching the system with fluids we feel as if we were re-reading the pages of Broussais ; though Dr. Guelpa does not push his theory to the extreme, as did his countryman : he simply invites his medical confrères tentatively to try his method and trusts to their being convinced by the eloquence of facts. He, like the author of "*Pseudodoxia Epidemica*," invites his readers to become indifferent men and judge of the value of his theory by the evidence coming from their experience of its use.

Dr. Guelpa's own writing does not exceed one hundred pages, but it is wonderful what an effect on medical science a few pages of sound medical observation has had. Goulard's little volume consists of not more than thirty duodecima pages ; Kane's account of substitution products, which initiated the whole industry of synthetic products, is a short paper ; Bodington's pamphlet on the treatment of consumption is of one hundred pages ; M'Keever described his removal of twenty-one inches of the ileum in an equal number of octavo pages ; Waller's description of diapedesis is told in a few pages ; and the brevity of Erb's

great pamphlet, "On Traumatic Peripheral Paralysis," is a surprise to almost every reader who indulges in the luxury of reading monographs; and lastly, may we not mention O'Halloran's account of his marvellous operation on the brain; Corrigan's fifty page volume (duodecimo) on "Continued Fevers," and Benson's "Diploic Veins"?

Dr. Guelpa's little volume is well worthy of study, and his method deserves consideration; it is pregnant with thought, and should impress on its readers that in Glauber salt we have a therapeutic remedy worth a shipload of Yankee nostrums.

The Blood. A Guide to its Examination and to the Diagnosis and Treatment of its Diseases. By G. LOVELL GULLAND, M.A., B.Sc., M.D., F.R.C.P.E., Physician to the Royal Infirmary and to the Royal Victoria Hospital for Consumption, Honorary Physician to Chalmer's Hospital, Lecturer on Medicine at Surgeon's Hall, Edinburgh; and ALEXANDER GOODALL, M.D., F.R.C.P.E., Lecturer on Physiology and on Practical Medicine at Surgeon's Hall, and on Diseases of the Blood in the Edinburgh Post Graduate Courses in Medicine, Examiner in Physiology to the Royal College of Physicians, Edinburgh. With 16 Text Illustrations and 16 Coloured Plates. Edinburgh and London: William Green & Sons. 1912. Royal 8vo. Pp. xvi + 344.

WE have read this book with much pleasure and instruction. It is written by two acknowledged authorities on diseases of the blood, and is admirable in every way. It is not intended to be a complete exposition of the subject, but to contain all the information that is likely to be of practical use in clinical work. The writers very properly rely more on their own experience than on the writings of others, and in consequence have avoided overloading the book with descriptions of complicated and seldom used methods of staining, &c. At the same time they have succeeded in presenting in most readable form the essential facts in connection with all known blood diseases, and, in

addition, have collated the blood changes found in other diseases. In a book of the sort when one does not feel called upon to criticise, it is difficult to write a lengthy review, and in consequence we may dismiss the greater part of the text by saying that the practitioner will find the work most useful for reference. We think the writers are rather mistaken in dismissing so summarily Hunter's view of pernicious anæmia, but with few other of their statements are we inclined to quarrel. We notice that they are inclined to disagree with Lorrain Smith's view of chlorosis, and in this we think most clinicians will agree with them. The book is sufficiently illustrated, and has a good index.

Diseases of the Nervous System. By JUDSON S. BURY, M.D. (Lond.), F.R.C.P., B.Sc. (Victoria); Senior Physician to the Manchester Royal Infirmary. Manchester: At the University Press, Sherratt & Hughes. 1912. Demy 8vo. Pp. xx + 778.

THIS book bears internal evidence of having been written by one who has had large experience of clinical teaching. It is practical and to the point, and is not overburdened with unnecessary detail. We can strongly recommend it to medical students and practitioners as a clear and up-to-date exposition of our knowledge of diseases of the nervous system.

The earlier chapters deal with the anatomy and physiology of the nervous system. The author states his opinion that diagnosis of nervous diseases depends on a thorough knowledge of anatomy and physiology, but his anatomy and physiology is what we would expect from a practical man, and is in consequence admirable as an introduction to clinical work. Systematic examination of every case is inculcated, a precept with which we are in thorough agreement.

The succeeding chapters, which constitute, of course, the main bulk of a book of nearly 800 pages, deal with nervous diseases, the actual classification adopted following fairly closely the most characteristic clinical feature of any

group of cases—*e.g.*, the spastic paralyses are grouped together, as are the flaccid and atrophic paralyses. This part of the work does not require much comment, and we need only say that it is eminently readable, and is full of the wisdom acquired by long experience. Unnecessary literary references are omitted, as the author aims at teaching what one must know at the bedside, rather than what has been said by other writers. The book is sufficiently illustrated by diagrams and photographs of patients, and is provided with an index.

Salvarsan in Syphilis and Allied Diseases. By J. E. R. McDONAGH, F.R.C.S.; Surgeon to Out-patients, London Lock Hospitals. London: Henry Frowde, and Hodder & Stoughton. 1912. Oxford Medical Publications. Demy 8vo. Pp. viii + 152.

THIS is an extremely practical book, and a welcome addition to the now fairly numerous list of volumes dealing with the drug "606." As experience of Salvarsan increases it is, of course, desirable that the conclusions of those who have had an opportunity of working with it on a fairly large scale from its introduction should be published as a guide to others. Dr. McDonagh's book is a record of his own experience and conclusions: it is an admirable guide to the administration of salvarsan, and contains information on almost every point on which a worker with the drug would be likely to seek information. In this respect we have found it most useful, and have been able to find in it answers to questions that cropped up in the course of clinical work, and which were not dealt with adequately in other works at our disposal. How far we have already passed from the days when complete sterilisation of a patient by a single dose was held out as the goal that had been reached, or almost reached, is shown by the statement on page 9 that in secondary syphilis about 3 grammes of salvarsan must be given, and in addition a mercurial course. Unfortunately, experience everywhere now bears out this statement. In

primary syphilis, of course, cure is more easily brought about.

The last chapter in the book is devoted to an account of the author's experiences with neosalvarsan, and should prove distinctly useful, inasmuch as it is expected that this drug will soon be on the market. The writer has now given over 200 injections, and has formed the opinion that neosalvarsan is more powerful than salvarsan. More care, however, is required in using it.

It is unnecessary to deal with the contents of this book in greater detail. The book will appeal to the practical man, and we confidently anticipate the early appearance of a second edition.

Some Recently Discovered Letters of William Harvey, with other Miscellanea. By S. WEIR MITCHELL, M.D. With a Bibliography of Harvey's Works, by CHARLES PERRY FISHER. Philadelphia: Transactions of the College of Physicians of Philadelphia. 1912. 4to. Pp. 55 and 11 Plates.

ON June 3, 1657, the great William Harvey died, and during the two hundred and fifty-five years that have elapsed since that time the life and works of the great physiologist have formed the constant theme of medical historians. It seems strange that after so much labour and research there should yet remain unpublished documents of great interest relating to the life of one that has been so much written of. This strange event, however, has happened, and Dr. Weir Mitchell has been able to print for us some ten unpublished letters written by Harvey. These letters were discovered some little time ago by the Royal Historical Manuscript Commission in the collections of the Earl of Denbigh, and have just been issued in the volume dealing with that collection. Owing to the courtesy of the Commissioners, and the good offices of Sir William Osler, advance copies of the proofs of these letters were sent to Dr. Mitchell, and he was permitted to bring them before the profession in their present form.

The letters were addressed by Harvey to Basil, Lord Feilding, Ambassador at Venice, during the period that the writer was physician to the Embassy of Lord Arundel to the Palatinate in 1636. While attached to this Embassy, Harvey obtained permission to visit Italy, and on his journey there he was stopped at Treviso and held in quarantine for at least thirty-seven days as a plague suspect. In his letters the "little doctor" complains bitterly of the treatment he received and of the hardships which he had to endure. For fear of contagion in the Lazaretto he elected to sleep on the grass, with the result, he tells us, "that now these two nights I have had a sciaticque in my right thigh and legg that much discourageth me, and maketh me lame."

Besides these interesting letters, which throw much light on a period of Harvey's life previously little known, Dr. Mitchell also gives us some interesting documents illustrating the way in which Harvey's work was received by his contemporaries, and the opinions that were held of him at the time. The volume concludes with a most interesting Bibliography of Harvey's works, compiled by Charles Perry Fisher, the Librarian of the College of Physicians of Philadelphia.

Anæsthetics in Dental Surgery. By FRANK COLEMAN, M.R.C.S., L.D.S.; and HARVEY HILLIARD, M.R.C.S.
London: H. K. Lewis. 1912. 8vo. Pp. xvi + 300.

THIS book is designed by the authors as a text-book for dental students, and aims at supplying them with the information required in the dental curriculum. It is, however, a thoroughly practical book, and will be found useful to those practitioners who are not "specialists" in the subject. The various methods of administering nitrous oxide gas, ether, chloride of ethyl, and chloroform are clearly and concisely described, the authors only giving a description of those methods and apparatus which they have found from practical experience to be useful. We doubt the wisdom of recommending the

administration of chloroform for dental operations under any circumstances, but, as this opinion is not shared by all operators and anæsthetists a description of the methods is necessary in a text-book, and in this one the authors have pointed out the dangers attendant on the practice. The importance of accurate dosage in the use of this drug is pointed out, but as long as such forms of apparatus as the Schimmelbusch's mask is recommended for use such accuracy is scarcely attainable. We should like to see all such forms of apparatus banished from the armamentarium of the anæsthetist, but quite recognise that this is an ideal which is not likely to be realised for some time to come.

A large section of the book is devoted to the methods adopted for obtaining local anæsthesia or analgesia for dental operations. The usefulness of these methods is becoming more and more certain every day, but this usefulness is definitely circumscribed, and efforts to extend the use of these methods to extensive dental operations appears to us to be courting disaster.

It is with pleasure that we recommend this book to dental students, and feel sure that if they master its teaching not only will they be able to satisfy their examiners, but also they will be able to do justice to their patients, their profession, and themselves.

Duodenal Ulcer. By B. G. A. MOYNIHAN, M.S. (Lond.), F.R.C.S. Leeds. Second Edition. Enlarged. Illustrated. Philadelphia and London: W. B. Saunders Company. 1912. 8vo. Pp. 486.

It is quite unnecessary to do more than direct the attention of the profession generally to the appearance of the second edition of this well-known monograph.

The principal changes to be found in this edition are in connection with the diagnosis and differential diagnosis of the condition; the addition of a chapter on jejunal and gastro-jejunal ulceration after the performance of gastro-enterostomy for the treatment of duodenal and gastric ulcers, and the addition of a few pages giving the proper

line of treatment to be adopted for the cure of the condition known as “melæna neonatorum.”

Of course, in the appendix we have included all the cases operated upon in 1909 and 1910, with an analysis of their results, so that a comparison may be instituted with the results of operation in all the cases collected before 1908. The book is one which should be read by every physician, surgeon, and general practitioner.

Anæsthetics: A Practical Handbook. By J. BLUMFELD, M.D. Cantab. Third Edition. London: Baillière, Tindall & Cox. 1912. 8vo. Pp. vii + 134.

IN the pages of this journal six years ago we reviewed the second edition of this book, which then appeared as No. VII. of the “Medical Monograph Series.” We are glad to think that the opinion which we then expressed of the work has been justified by the call for a third edition. In the former issue of the book the chief addition was the chapter on the administration of chloride of ethyl—a drug which, though very useful, has scarcely justified the hopes formed of it at its introduction. In this edition the chief novelty is the description of the open method of ether administration. It seems to us that the author has not yet fully realised the possibilities of this method, and he still speaks of the limitations of ether anæsthesia in much the same way as they were spoken of before its introduction. We are of opinion that the open method of ether administration has increased the scope and usefulness of the drug enormously, and that there are few patients, to whom a general anæsthetic may safely be given, in whose case “open ether” is not the safest anæsthetic that can be used. The difficulty in the method is almost always during the period of induction, and in the length of time which it takes to get the patient ready for the operator. Personally we prefer gas and ether by a Clover’s inhaler for the induction period, and when the patient is anæsthetised pass on to the open method. Were this plan more widely adopted we believe that we

should hear much less of the necessity of changing from ether to the chloroform and ether mixture, or to chloroform. In Dublin for many years the routine anæsthetic used in the hospitals has been ether, and experience has shown that there are few patients to whom it cannot be safely given and few operations for which it is not suitable.

We also differ from our author in his opinion of the nasal method of administering nitrous oxide gas for dental operations. He states that "generally speaking" this method "is not so satisfactory as oral." We hold an exactly opposite opinion. If one compares the anæsthesia obtained by the oral method, of from thirty to fifty seconds duration, with that obtained by the nasal method, and lasting for one or five minutes, it is possible that the advantage may be with the oral method, but such a comparison is not right. An anæsthesia of from one to five minutes for a dental operation is very rarely attained by the oral, though not infrequently by the nasal method of administration. For the short operations lasting from half to three-quarters of a minute a much better type of anæsthesia, with less cyanosis, can, in our opinion, be obtained by the nasal than by the oral method. If anæsthetists will only use the nasal method when they wish to obtain a long anæsthesia it is not to be expected that they will attain the experience which is requisite for uniformly good results.

Though we differ from the author in these matters we extend to the new edition of his book a cordial welcome, believing, as we do, that it contains sound teaching in that concise form which is so much to be desired in a student's text-book.

Clinical Disorders of the Heart Beat. A Handbook for Practitioners and Students. By THOMAS LEWIS, M.D., D.Sc., M.R.C.P.; Lecturer in Cardiac Pathology University College Hospital Medical School. London: Shaw & Sons. 1912. 8vo. Pp. xii + 104.

THE object of this book is to point out how the various

cardiac irregularities, the meaning of which has been made known by instrumental methods, can in the light of the knowledge now gained be recognised by simpler means. The book, which is quite short, should in consequence appeal to those medical men who have neither the time nor the skill to prepare and interpret complicated vascular tracings. It deals systematically with the different types of cardiac irregularity, and shows how, in the large majority of cases, these can be readily recognised at the bedside by ordinary methods of examination. The writing is fairly clear and to the point, and possesses the decided merit of brevity. We can recommend it to those of our readers who are interested in the modern views concerning the vascular mechanics.

Minor Surgery. By LEONARD A. BIDWELL, F.R.C.S. ; Surgeon to the West London Hospital ; Dean of the Post-Graduate College. 88 Illustrations. (London Practitioners' Manuals). London : Published for the University of London Press, Ltd., by Henry Frowde and Hodder & Stoughton. 1911. Pp. xiv + 265.

THIS little book, according to the preface, was undertaken at the suggestion of post-graduates and friends in general practice, and is an amplification of a course of lectures on Minor Surgery, delivered at the West London Post-Graduate College. The author's aim is to give simple and clear directions for the management of every-day surgical work, and the book does not pretend to be a complete treatise on the subject. Bandaging, dislocations, and their treatment have been entirely omitted. The description of the various minor operations is clear and concise, and the choice of methods is in general excellent. The illustrations show clearly what they are intended to show, and the whole book is well got up and convenient in size. It is one of the first volumes of a new series intended for the senior student and for those in general practice who wish to keep up with the current teaching of the day. It should appeal to a wide circle of readers.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

Hypertrophy of the Thymus Gland and its Treatment. By DR. R. GINO PIERI, Assistant Surgeon to the Rome Hospital. Translated from the *Rivista Ospedaliera*. Roma. Anno. II., Vol. II., No. 11, by GEORGE MAHOOD FOY, M.D., F.R.C.S.I.

THE obscurity which surrounds the physiology and pathology of the thymus gland does not afford us sufficient data to allow of our satisfactorily discussing the question of the origin of its hypertrophy. Many different theories have been put forward to explain it; even the normal size is a subject of difference of opinion. Haller says that at birth the gland weighs three grammes; Testut and Cruchet give it as five grammes; Bovaéra and Nicoll as six, and Friedleben as fourteen. Oliver, from many experiments, named four grammes as the normal weight of the gland at birth, with an annual increase of two grammes to the third year; if the weight at the end of the second year exceeded five grammes the gland should be looked on as hypertrophied. Simon, Spokslow, Friedleben, and Kölliker consider this an under-estimate. We do not propose entering on this question; we intend to examine the matter from the pathological standpoint alone, holding that when the gland reaches a certain size it seriously imperils the infant's life, and we would accentuate the fact that when hypertrophy occurs the infant is liable to a sudden death, the cause of which it is not always possible to demonstrate by an autopsy—such deaths not infrequently follow attacks of syncope, and are not unusual in those with a hyperplasia of the lymphatic system (status lymphaticus, Paltauf), associated with aplasia of the cardio-vascular system, and also with Basedow's disease, conditions which unfavourably influence the prognosis. With this condition of the

thymus we find sudden death, and the syndrome of a progressive type of dyspnœa. Death of an infant with a hypertrophied thymus occurs suddenly as a syncope in the midst of apparent health; others may, however, seem to suffer from some common ailment (Hedringer gives five cases of death from hypertrophied thymus in a family of six children). We verified them as infants in the beginning of their second year, dying without any apparent cause; in one case violent emotion was given as the cause; in another it was ascribed to the use of a bath, and in one case to a hypodermic of diphtheric serum.

The syndrome of dyspnœa was recognised in each case during early infancy, and in each there was a more or less rapid wasting. Each child died from a paroxysm of asphyxia in the course of an attack of dyspnœa early in the second year of life.

It is difficult to demonstrate the pathological characteristics of this state of the thymus. Of the hypotheses before us the one generally accepted is that which treats of the condition as a mechanical one. It may be said that neither the syndrome of progressive dyspnœa nor the causation of the sudden death can be explained by the mechanical theory, a theory sustained by Kopp, Grawitz, and others, who ascribe the sudden death to the backward movement of the head, by which the upper orifice of the thoracic cavity is closed, whereby a hypertrophy of the gland, until then latent, quickly becomes mortal. Think of the possibilities of a firm and fixed wedge of glandular substance in the upper opening of the thorax, together with an increase in its volume from the hyperæmia resulting from its position (a hyperæmia sometimes due, as in Marfan's case, to an inflammation of the adjoining tissues—diphtheritic pharyngitis).

Certainly in the majority of cases operation, tracheoscopy, and autopsies have revealed compression of the trachea by a hypertrophied thymus; in some instances, however, the pressure has been made, not on the respiratory passages, but on the heart and large vessels (displacing the heart, dilating and thrombosing the large vessels of the mediastinum, and causing pulmonary œdema by pressure on the pulmonary vessels, &c.); in other cases the pathological conditions were obscure; in such it is quite possible

that pressure has been exerted on one or more of the nerve trunks—phrenic, vagus, recurrent pharyngeal—or on the cardiac nerves. But we incline to the view that the hypertrophic conditions of the thymus of Paliat is sometimes due, having regard to the sudden death in this state, to a general toxin, which by its action on the cardiac nerves creates a susceptibility to syncope. Escherich has latterly supported this theory, attributing the excitability of the nerve centres to the functional hyperactivity of the gland; and from recent experiments on the subject by Siebke, Livon, and Parisot, and still more recently by Hartsh, we are also favourably inclined to the hypothesis. In conclusion, we cannot, in the present state of our knowledge, affirm that one cause will explain the different conditions found: some may be ascribed to a mechanical origin, others to nerve influences, direct or indirect; and others coming under neither of these classifications may be ascribed to a special pathological lesion. To clear up this complex problem requires careful clinical observation, examination of its pathological anatomy, and biological experimentation, if we are to attain to our objective a satisfactory theory.

The outstanding features of the disease are a sudden syncopeal attack ending in death, and a cataleptic seizure which ends fatally. In some cases the dyspnoea may be accompanied by exacerbations, violent paroxysms of coughing, and the expulsion of some bronchial catarrh. When these conditions last for some time oedema of the tissues in the immediate vicinity of the larynx occurs, breathing becomes stridulous and greatly laboured, and the face deeply cyanosed.

Nurses sleeping with infants subject to syncopeal or cataleptic paroxysms are liable to be suspected of having overlaid the infant. Children suffering from the severe dyspnoeic paroxysm gradually acquire a retro-sternal depression, usually measuring 6 mm., as measured from its base line, which passes from the sternoclavicular articulation of one side to that of the other, and has its apex at the articulation of the left costal cartilage with the sternum (Blumenrich).

In typical cases of thyroid hypertrophy this space does not give, on percussion, a clear pulmonary sound, but the dull sound of the enlarged thymus.

The X-rays will show a retro-sternal shadow, which may or may not be due to an enlarged thymus; and the tracheoscope can demonstrate compression of the trachea. d'Oelsnitz thus sums up the symptoms:—The skiagraph shows (1) a retro-sternal tumour; (2) the dull appearance of the child; (3) puffiness of the face; (4) cyanosis of the lips, temporary or permanent; (5) enlargement or swelling over either parietal bone; (6) hypertension of the fontanelle, without any sign of meningitis, such as obstruction of the venous circulation of the scalp; (7) lastly, a stridulous respiration which is accentuated in the dorsal decubitus. Withal, the diagnosis of a hypertrophied thymus gland is attended with difficulties: the dyspnœa, with inspiratory stridor, and paroxysmal exacerbation, tumefaction of the laryngeal tissues, and a skiagraph, when all present, admit of a sure diagnosis of a hypertrophied thymus; especially if associated with a condition of status lymphaticus; yet the clinical picture might be drawn for tubercular adenitis of the peribronchial glands, which closely simulates in clinical symptoms thymic hypertrophy. The symptom that chiefly demands our attention is the progressive dyspnœa with stridulous respiration. It is, however, needful in making a diagnosis that in every case we exclude congenital malformation of the larynx; the presence of a foreign body in the respiratory tract; the growth of tumours; laryngitis, dyspnœa, if accompanied with cough and hyperæmia of the fauces; asthma, if accompanied with a whistling respiration; pseudo-croup, or laryngitis stridulus; idiopathic spasm of the glottis, if with apnœa and a jerky inspiration and convulsions. Lastly, we include that very uncommon condition, the opening into a bronchial tube of a tubercular suppurating gland, which gives rise to a progressive dyspnœa, and the expulsion of caseous matter. Tracheo-bronchial adenopathy may give a skiagraph of a tumour retro-sternal recognisable by percussion, and error in diagnosis in such a case, by causing surgical interference, would be attended with disastrous results.

In these cases, however, the stridulous breathing and the inspiratory drag are different in character from those of thymic hypertrophy; radiography, however valuable as an aid to diagnosis, is neither constant nor unequivocal. The stridor, congenital (exclusive of malformation of

the larynx), resembles thymic hypertrophy, especially if it follows on a convulsive cough or broncho-pneumonia, or, according to Variot and Quinon, on the adenopathia of trachial-bronchitis (d'Oelsnitz considers that the stridor of the respiratory tract resembles the respiratory trouble of tracheo-bronchial adenopathy, as they both are due to thymic congestion). The stridor is due to the hypertrophy as is the stridor of adenoid tracheo-bronchialis. The inspiratory stridor comprising the whole tract is the result of nerve lesion producing spasm of the glottis, and in others stridor on inspiration (Marfin, however, considers that it is not caused by spasm of the glottis, but by paralysis of the abductor muscles of the glottis).

The supra-sternal drag, according to Veau, is more marked in cases of hypertrophy of the gland than in those of tracheo-bronchitis. He also finds that in dorsal decubitus the stridulous inspiration is more marked in hypertrophy; but Aviragnat found the stridulous inspiration marked in tracheo-bronchitis. Of more value is the observation of Rilliet and Barthez that in tracheo-bronchitis there is a diminution of vesicular murmurs, and a dull area posteriorly, due to enlarged glands (symptoms inconstant and difficult of verification). The difficulty of differentiating the pathological conditions is due to the close resemblance of the skiagraphs in each. In the case of hypertrophy the outline of the thymus gland is clear, and its form that of a trapezoid with a truncated angle well seen; its shadow projects to the left, beyond the shadow of the sternum, and extends down to that of the heart; in adenopathy-tracheo-bronchitis the shadow inclines to the right of the sternum, and is but slightly homogeneous.

The cure of hypertrophy is not wholly dependent on surgical interference. A diminution of the hypertrophy has been produced by medicinal remedies. Filibert's suggestion, however, of a thymotoxine serum did not give encouraging results. More promising are the results obtained by Röntgen-therapy first proposed by Heinecke and Rudberg, and studied afterwards by Aubertin and Bordet, and by Regaud and Crémieux. In experiments on animals the X-rays produced a diminution in size of the thymus; and in the case of Friedländer and Myers, one of hypertrophy, the patient found a great benefit; the sittings in their cases

ranged from 12 to 47. We find that in these cases numerous sittings are necessary, and that the rays should be direct. Unfortunately, on the cessation of the serum treatment the gland again becomes hypertrophied, and may become even more so than at first; it is unsuitable for the majority of cases; the frequent exposures are inconvenient; the immobilisation of the infant for the exposure is attended with the great risk of being followed by suffocation from a paroxysm; and, finally, there is the likelihood of the recurrence of the state. Better results follow on operative interference. We are deeply sensible that surgical treatment means tracheotomy, resection of the manubrium, and the excision of a hypertrophied gland: nevertheless, every day our opinion that the operation is the proper treatment is strengthened. Thymectomy is opposed on the grounds that it deprives the patient of the natural secretion of the gland; a secretion of the value of which we know nothing. But in reality the results of our labours on the effect of total excision of the gland are very variable and sometimes contradictory. Besides, as a fact the whole gland is never removed; autopsy has demonstrated this fact; portions of the gland remain adherent to the capsule, hence thymectomy is partial, sub-total, and the organism appears to suffer nothing from the excision. Total removal is practically impossible (to attempt it would be to open the pleura, to attempt the impossible task of separating the capsule from the pericardium, and even the risk of injuring the vagus and recurrent laryngeal nerves in the mediastinum), whilst the sub-total excision is performed with great facility. The following is the technique of the operation, as performed by the author:—The child being turned slightly on its shoulder, so as to admit of free extension of its head, an incision is made in the middle line of the neck, commencing 2 or 3 c.m. above the supra-sternal fourchette, and continued 1 or 2 c.m. on the middle line of the manubrium; the superficial and medial cervical fascias are then cut through (in the interspace of the sub-hyoid muscles), carrying the incision well down to the sternum. Then in this space seek the trachea and see with every breath a greyish mass covered with a fibrous capsule rise (the capsule is that of the thymus); tear with a probe a slight hole in the capsule, and with Kocher's forceps seize the apex of the gland, and from it, by a probe, separate the capsule, taking care to disturb the deeper parts as little as

possible; not over-stretching the capsule; bearing in mind the risk of tearing a venous trunk of the mediastinum and causing canalisation. It is not usual or necessary to ligature the stump of the thymus; seek out, however, bleeding points in the capsule and tie them with catgut; the cervical fascia may be sutured with the skin. The operation of Veau, referred to above, consists in tracheotomy, resection of the manubrium, section of the sternal origin of the sterno-mastoid muscle, and decapulation of the gland—an unnecessary, complicated and dangerous operation. We consider that it is not necessary to give an anæsthetic in this operation. Thymic hypertrophy produces a tendency to sudden death by syncope, and this is increased by the use of any anæsthetic. On the question there is, however, much difference of opinion; some advocate local anæsthesia (Lenormant, Pauchet, Henrichs, Pratt, Gaudier, &c.); others write that in their experience a careful anæsthesiation facilitates operation without increasing its dangers (Veau, Olivier, &c.).

The consensus of opinion is, however, in favour of local anæsthesia, preferably *stovocain* or *novocain*. From the initiation of the operation up to 1912 it has been performed 42 times (Olivier's statistics), with 27 cures and 15 deaths. Of the fatal cases 7 died from causes not attributable to the operation; in the other 8 the deaths resulted from an error of technique or from a cause indirectly due to the operation—septicism of the operative incision or of the tracheotomy, which would produce infection of the mediastinum, contemporary with tuberculosis of the lymphatics.

In one case operated on recently death suddenly occurred during a state of syncope, the operation was being performed under local anæsthesia, and was proceeding without any special difficulties. Death was probably due to canalisation of one of the cervical veins, a complication which was not duly considered among the complications of thyroidectomy.

Safety is to be found when the sub-total infracapsular operation is of itself a benign one.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR CHARLES BALL, BART., M.D., F.R.C.S.I.

General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

SECTION OF SURGERY.

President—R. H. WOODS, P.R.C.S.I.

Sectional Secretary—C. ARTHUR BALL, F.R.C.S.I.

Friday, March 29, 1912.

THE PRESIDENT in the Chair.

Spina Bifida.

MR. R. ATKINSON STONEY read a paper on “*Spina Bifida.*” Having discussed the various forms of this malformation and their origin, and discussed the various theories as to their causation, the author gave short histories of four cases on which he had operated at the Royal City of Dublin Hospital. The first was a baby, seven months old, with a large meningo-myelocoele in the sacral region, the skin covering which was stretched and ulcerated and on the point of bursting. The second, three months old, was also a case of large sacral meningo-myelocoele. The third, five months old, had a large syringo-myelocoele in the dorsal and lumbar region, nearly the size of a foetal head, and there was complete paralysis of the lower part of the body and limbs. The fourth case was a boy of nine years old with a large bilocular tumour in the sacral region, the superficial one being a meningocele and the deeper loculus a meningo-myelocoele. All had been operated on successfully as far as the removal of the tumour was concerned. Special stress was laid on the importance of the gradual evacuation of the cerebro-spinal fluid, and of the keeping the patient’s head at a lower level than the pelvis both during the operation and during the process of healing, in order to prevent leakage of the cerebro-spinal fluid or stretching of the cicatrix. The results of these four operations, in which the defect had been covered in merely by flaps of skin and subcutaneous tissue, showed that the elaborate methods of forming bone flaps were quite un-

necessary, and only added to the difficulty and gravity of the operation without any compensating advantages. One of the cases, which has been followed for four years since the operation, shows no bulging of the scar although marked enlargement of the head has occurred, showing that there is increased tension of the cerebro-spinal fluid. The conclusion arrived at was that all cases where a tumour was present should be operated on, especially when the tumour was enlarging and the skin showed signs of thinning and ulceration, as otherwise an immediate fatal result must be expected.

DR. BOYD BARRETT congratulated Mr. Stoney for having produced a number of theories as to the origin, prognosis and treatment of this ailment. As to prognosis he agreed with Mr. Stoney that the removal of the tumour could do no harm, and if hydrocephalus occurred it was not due to the removal of the tumour. The paralysis, of course, would not be relieved by the removal of the tumour. He also agreed that the treatment was simply a matter of technique, and no danger should arise from the operation if the precautions enunciated by Mr. Stoney were taken. He considered no plastic operation necessary, as no secondary bulging occurs.

MR. STONEY briefly replied.

The Operative Treatment of Cancer in the Upper Rectum and Pelvic Colon (with lantern slides).

MR. EDWARD H. TAYLOR read a paper on the operative treatment of malignant disease involving the upper rectum and the pelvic segment of the colon. He pointed out that the aim of the surgeon should be to recognise the disease as early as possible, to carry out the most complete operation for its removal, and to preserve the natural termination of the bowel at the anus, together with a normal degree of sphincteric control. These aims in treatment, however, were often rendered impossible owing to co-existing obstruction, widespread local infiltration, and possibly extensive metastases. In performing the radical operation due regard should be given to preparatory treatment directed towards a thorough emptying of the bowel. Castor oil seemed to suit well for this purpose. No purgative, however, should be administered during the twenty-four hours immediately preceding the resection. Referring to the extent of the radical operation Mr. Taylor pointed out that it should include a

free local excision of the bowel, the extirpation of the primary lymphatic glands, and as many of the secondary glands as possible, together with the surrounding connective tissue in which the lymphatic vessels and glands were contained. The blood-vessels and lymphatics of the pelvic colon and rectum were described in detail. Special attention was directed towards the recto-sigmoidal anastomosis and its significance in connection with the mobilisation of the colon and in the operation for rectal cancer. The various steps undertaken in the mobilisation of the colon were described and illustrated by means of lantern slides. In the resection operation certain difficulties were pointed out, more particularly those connected with the establishment of an end-to-end junction. Mr. Taylor did not regard this as a safe procedure, and showed that it might be very difficult. He pointed out certain modifications in the procedure devised by the Mayos and Mummery of London. Resection of the cancerous segment of the bowel followed by the establishment of an artificial anus in the left iliac fossa was probably the safest procedure, especially in heavily-fleshed male subjects and in debilitated individuals. The lower bowel segment might be invaginated and closed, or removed completely. The method of procedure, however, which had been attended by good results in his hands consisted in mobilising the upper colon segment to an extent sufficient to enable it to be drawn down through the anal aperture and fixed there. The steps of the combined perineal and abdominal operation were described in detail with the aid of diagrams and lantern slides.

SIR CHARLES BALL thought there were one or two points in connection with the subject which required a little further consideration. Regarding the means by which secondary growths occur in cancer of the rectum after operation, he thought opinion had gone a little wild on the subject of lymphatic infection, especially since Mr. Samson Hanley's paper was published. Since that paper appeared a very careful *résumé* was made of about seventy cases by *post-mortem* examination subsequent to operation for excision of the rectum, and this gave remarkable results. In by far the great majority of cases the secondary tumours which proved fatal were absolutely local recurrences around the place where the tumour had been removed, and next to this the liver was the most directly affected organ—the cases in which lymphatic

infection was proved to occur being extremely small—viz., about 5 per cent. This, he thought, bore out very fully the experience of the clinical surgeon in the treatment by older methods. Although he recognised the advantages of the combined operation, he would like to ask, are we justified in rushing into this operation when we know by experience that good results are obtained by the mild operation? He admitted that the combined operation should be done if it could be shown that it was a safe proceeding. In the female he thought it was fairly safe, but in male patients the mortality was very much greater. The modern perineal operation, where the rectum can be divided tolerably high up, gives results infinitely superior to those obtained by the combined operation. Another point of importance was to maintain an efficient arterial supply. The superior hemorrhoidal being a terminal vessel, if it is divided, sloughing is an extremely common result. Until it is proved as safe he thought it would be extremely unwise to give up the milder and perfectly satisfactory operation for earlier cases of cancer of the rectum that are sometimes met with.

MR. W. I. DE C. WHEELER said that he had quite a number of cases of cancer of the rectum under treatment about three years ago at Mercer's Hospital, and he was then led to believe that the lymphatic glands were always affected in these cases. In each of his cases he had opened the abdomen to attempt the complete abdominal or combined operation, but in only one case was he able to carry it out, owing to the extent of the cancer, there being dissemination to the liver. Sir Charles Ball's remarks appeared to him to put a damper on the combined operation. With regard to the use of the sigmoidoscope, in cases of suspected low obstruction of the colon, he had always found the instrument to be of the greatest assistance. If it is used carefully he thought there was little danger of doing harm even if the bowel was friable, and with proper manipulation it could be passed for a considerable distance. With regard to the different types of growths in the rectum he thought that none of them tended to disseminate so much as the cauliflower type.

MR. SETON PRINGLE said that his experience of the sigmoidoscope, extending over seven years, was that if used with care and passed the whole way by sight no injury could occur.

MR. BLAYNEY agreed with Mr. Pringle and Mr. Wheeler as

to the use of the sigmoidoscope. Although he had a great respect for the experience of Sir Charles Ball, and felt some diffidence in disagreeing with the conclusions come to by him, he thought that it should be remembered that in the earlier days of the sacral operation the mortality was very high, and so it is now with the combined operation, which was only in its infancy. He anticipated better results in the future. He considered it most important that the operator should see everything he was doing, and this can be done in the abdominal operation, which cannot be said of the sacral method. He thought the abdominal was the operation of the future.

MR. E. H. TAYLOR, in reply, said that, while agreeing with Sir Charles Ball in what he had stated as to the excellent results produced by the sacral operation, he thought there was this much in favour of the combined operation—it admitted of a very elaborate or a modified procedure being adopted. When the abdomen is opened matters can be fully investigated, and the bottom of the perineal pouch and liver examined. In two cases in which he had removed cancer of the rectum by sacral operation the patients returned with liver involvement, and it occurred to him that had he opened the abdomen in these instances he would not have gone on with the operation. With regard to the further procedure in the abdomen he thought that if the operator got to the important part of the artery above the sigmoid the patient would not be subjected to any great risk. He anticipated that when this operation is carried out more extensively the results are bound to improve.

SECTION OF MEDICINE.

President—SIR JOHN MOORE, M.A., M.D., F.R.C.P.I.

Sectional Secretary—F. C. PURSER, M.D., F.R.C.P.I.

Friday, April 26, 1912.

THE PRESIDENT in the Chair.

Myelogenous Leukæmia.

DR. PARSONS referred to the clinical records of four cases of myelogenous leukæmia which had been under his care in the Royal City of Dublin Hospital. He illustrated his observa-

tions by several lantern slides, which showed the size of the spleen and liver before and after treatment, the alterations in the number of the leucocytes, and the output of uric acid, phosphates, and sulphates. He considered that the records supported the following propositions:—(1) That a considerable reduction in the size of the spleen in myelogenous leukæmia can be induced by the use of X-rays, either with or without arsenic. (2) That a marked reduction in the number of the leucocytes follows on the same line of treatment. (3) That there is no material increase in the output of uric acid, phosphates, and sulphates, while this material reduction in the leucocytes is taking place. (4) That the improvement under treatment is very striking, but is not permanent. A *post-mortem* was obtained in one of the cases. The patient succumbed to acute miliary tuberculosis of the lungs, and the spleen (3 lb. 3 oz.), liver (7½ lbs.), kidneys, lungs, and enlarged glands, and a portion of a rib were handed over to Dr. O'Sullivan for examination.

DR. O'SULLIVAN demonstrated the pathology of these cases by means of lantern slides. He said that in leukæmia myelocytes tended to collect in greatest number in the splenic blood-spaces, hence the enlargement of the spleen. The X-rays destroyed the myelocytes in the splenic blood-spaces and those that were circulating through the spleen. Thus a diminution in myelocytes in the circulating blood and a diminution in the size of the spleen were found after X-ray treatment. The fact that X-ray treatment was not of permanent use he attributed to an increase in the spleen of connective tissue, which interfered with the penetration of the rays.

DR. CHARLES M. BENSON said there was a certain amount of difficulty to be overcome in treating patients with the X-rays in such cases—viz., to give the patient sufficient dosage of the rays without causing dermatitis. The first two patients showed fairly extensive dermatitis, whereas in the case of the boy treated later there was none, although he had had one hundred and seventy-five exposures; this was attributed to improved technique. He advised the exposure of a small area of the skin on each occasion, and in this way the gradual exposure of the whole spleen could be brought about. A hard tube should be used, and if it is considered necessary a thin aluminium screen. If such precautions

are taken dermatitis can be avoided. He pointed out that in cases of relapse, where the patient comes up for treatment a second time, the spleen does not retract at the same rate, and never to the same extent, nor does the blood-count go back at the same rate as during the initial treatment.

DR. CAMPBELL said he had had opportunity of observing several cases of myelogenous leukæmia, and two cases of the lymphatic type. One case was a child aged about fifteen months, which was under treatment for what was regarded as rickets, but an examination of the blood showed typical myelogenous leukæmia. A second and more interesting case that came under his notice was that of a child, the mother of whom was under treatment for myelogenous leukæmia at the same time. The woman's blood-count showed 400,000 white blood-cells, which, after five months' treatment, were reduced to about 5,000. He referred to the use of salvarsan in cases of myelogenous leukæmia, and said that one or two observers claimed good results from the use of "606." In one case of lymphatic leukæmia which he had seen no improvement took place after the administration of "606."

DR. O'KELLY said that in one case of myelogenous leukæmia which he had had under treatment, as the patient approached death the colour-index got gradually higher. As he had not met with a sufficiently large number of cases he did not know if this was a common experience.

DR. PARSONS, in replying, said he could not agree with the President that, notwithstanding the remarkable influence of the X-rays, myelogenous leukæmia was as malignant as ever, as the last case he had treated gave him some encouragement; counting from the establishment of well-marked signs the patient lived for six years, and the cause of death was not myelogenous leukæmia, but miliary tuberculosis. He did not think that dermatitis caused by the X-ray treatment did any harm. He was interested in the use of salvarsan in such cases, and some striking results had been obtained by its injection—better, he thought, than had ever been attained by the use of other preparations of arsenic.

Muscular Dystrophy.

PROF. JAMES CRAIG exhibited a young man, aged twenty-

two years, who was suffering from progressive muscular dystrophy. There was no familiar history of a similar affection. The boy (a cooper by trade) was strong and athletic until he was eighteen years of age. He then got weakness of the back, which gradually increased, causing him to give up work at the age of twenty years. Present condition—Scapulæ are winged; there is some lordosis, and a waddling gait. The following muscles are wasted on both sides:—The serratus magnus, latissimus dorsi, and the pectorals: the erector spinæ in the lumbar region, the gluteals (very markedly), the hamstrings, and the adductors of the thigh. On the other hand, the infraspinatus, the deltoid, triceps, and biceps are all well developed, as are also the muscles of the forearms and hands. The calf muscles are strikingly large. Measurements of the legs are—Below gluteal fold, $15\frac{3}{4}$ in.; mid-thigh, $15\frac{1}{2}$ in.; calf, $14\frac{1}{4}$ in. The muscles of the face are healthy; there are no fibrillary twitchings; sensation is perfect; tendon and organic reflexes are present. The wasted muscles respond slowly and feebly to the faradic current, but there is no R. D. The patient gets into the erect position with the help of pressing his hands upon his thighs. The case was regarded as one of pseudo-hypertrophic paralysis, but it could as readily be described as belonging to the juvenile type of Erb.

TOXIC EFFECT OF CAMPHOR.

M. MAURICE PERRIN, of Nancy, reports (*Province Médicale*, March 30, 1912) a case of poisoning of an infant, nine weeks old, by the application of an ointment of camphor and vaseline to the child's nostril. It appears that the child had a slight cold in its head, and the mother sought advice from a pharmaceutical chemist, who prescribed the ointment of camphor. On the first application of the remedy the infant became convulsed, got deadly pale, fell back in a state of collapse, with cessation of breathing. After some time M. Maurice Perrin succeeded in restoring respiration, and finally succeeded in saving the life.

*BICENTENARY OF THE SCHOOL OF PHYSIC IN
IRELAND.*

UNIVERSITY OF DUBLIN.

AT Special Commencements held on July 6th, 1912, in the Theatre of Trinity College, the following Honorary Degrees were conferred by the University Caput in the presence of the Senate :—

LL.D.

Right Hon. Sir Thomas Boor Crosby, Lord Mayor of London.

Right Hon. Lorcan George Sherlock, Lord Mayor of Dublin.

Sir John Hawtrey Benson, President of the Royal College of Physicians of Ireland.

Richard Dancer Purefoy, President of the Royal College of Surgeons in Ireland.

Denis Joseph Coffey, President of University College, Dublin.

William Peterson, Principal and Vice-Chancellor, McGill University, Montreal.

Hon. James J. E. Guérin, Professor of Clinical Medicine, Laval University, Montreal.

M.D.

Sir Thomas Barlow, Bart., President of the Royal College of Physicians, London.

Sir John Halliday Croom, Professor of Midwifery, University of Edinburgh.

Sir Rickman John Godlee, Bart., President of the Royal College of Surgeons of England.

Sir Christopher John Nixon, Bart., Vice-Chancellor of the National University of Ireland.

Sir William Whitla, Professor of Materia Medica, Queen's University, Belfast.

SC.D.

Prof. Hans Horst Meyer, Professor of Pharmacology, University of Vienna.

Sir William Osler, Bart., Regius Professor of Medicine, Oxford.

Prof. Alexander Peter Gubaroff, Professor of Gynæcology, University of Moscow.

Prof. J. Whitridge-Williams, Professor of Obstetrics, Johns Hopkins University, Baltimore.

Prof. Henri Hartmann, Professor of Operative Surgery, University of Paris.

Sir William Macewen, Regius Professor of Surgery, University of Glasgow.

Count Carl Axel Hampus Mörner, Vice-President of the Royal Swedish Academy of Sciences, Stockholm, and Rector of the Caroline Medico-Chirurgical Institute, Stockholm.

Prof. Ernst Fuchs, Professor of Ophthalmology, University of Vienna.

Prof. Allvar Gullstrand, Professor of Ophthalmology, University of Upsala.

Prof. George Dancer Thane, Professor of Anatomy, University College, London.

Prof. J. George Adami, Professor of Pathology and Bacteriology, McGill University, Montreal.

Charles James Martin, Director of the Lister Institute of Preventive Medicine.

Prof. Robert Muir, Professor of Pathology, University of Glasgow.

Prof. John Newport Langley, Fellow of Trinity College, and Professor of Physiology, University of Cambridge.

Prof. Alexander Maximow, Professor of Histology and Embryology, Imperial Military Academy of Medicine, St. Petersburg.

Prof. Ernest Henry Starling, Professor of Physiology, University College, London.

Prof. Robert Tigerstedt, Professor of Physiology, University of Helsingfors.

Prof. Raphael Blanchard, Professor of Natural History and Parasitology, University of Paris.

Prof. Percy Faraday Frankland, Professor of Chemistry, University of Birmingham.

Prof. Edgar Fahs-Smith, Provost of the University of Pennsylvania.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

ON Saturday, July 6, the Honorary Fellowship of the College was conferred on several of the Delegates attending the Bicentenary Celebration of the School of Physic in Ireland. The visitors to the ceremony were received by Sir Hawtrey Benson, President of the College, and a numerous body of the Fellows in academic costume.

THE PRESIDENT spoke as follows:—It is my pleasing duty and my privilege to offer you, on behalf of the Royal College of Physicians of Ireland, a cordial welcome to these halls. We have always rejoiced at our close connection with Trinity College, with her long and proud traditions—traditions which for ages have been the envy of many and the admiration of all; and we have always exulted as each new tie bound us closer than before. We now feel that your visit to us to-day—coming as you do fresh from the associations and the triumphs of that honoured seat of learning—will serve to strengthen still further those bonds and to enhance our feelings of loyalty and affection, and we thank you accordingly. When the College was made aware that you had kindly arranged to visit us as part of the Bicentenary Celebrations, with one voice we expressed the desire to have the honour and the pleasure of offering the Honorary Fellowship of the College to certain of our visitors, and accordingly a very few among many of world-wide celebrity were selected. To you who have kindly come, and are about to receive this grace, may I say that it is a source of great gratification to this College to have this rare and welcome opportunity of thus expressing our high appreciation of the splendid services which each of you in your own line is rendering to the cause of Humanity and of Science—services which have already won for you in your own countries that laurel wreath which is reserved for the very few. And in conferring this mark—the highest honour in our gift—the College feel that in each and every case we are conferring on ourselves a still higher honour.

The following Delegates were then introduced to the President by Dr. T. Percy C. Kirkpatrick, Fellow and Registrar of the College:—Sir Thomas Barlow, Bart., President of the sister college in London, and in reference

to whom Dr. Kirkpatrick said:—Sir Thomas is a Doctor of Medicine of the London University, a Fellow of the Royal Society. He is the honoured Physician Extraordinary of our gracious King, and is a Knight Commander of His Most Noble Victorian Order. The Universities of Victoria, Aberdeen, Toronto, Harvard, and McGill have made him an Honorary Graduate. We welcome him as our Honorary Fellow, and we rejoice to think that the great University of Dublin, with which we are so closely allied, will, in a few hours, also claim him as an Honorary Graduate.

In presenting the other Honorary Fellows, Dr. Kirkpatrick said:—John Mitchell Bruce, also a Doctor in Medicine of the University of London, is a Fellow and Senior Censor of the Royal College of Physicians of London. His work and fame are so well known to every student of Medicine that we feel a particular gratification in enrolling him amongst ourselves.

George Alexander Gibson, Doctor of Medicine of the University of Edinburgh, and Fellow of the Royal College of Physicians there, is no stranger to our College. He has proved his worth to us by a learned paper he read in this hall some few years ago, and now we gladly claim him as one of ourselves. Edinburgh has given our school the illustrious Cleghorn, and our loved teacher, the late Professor Cunningham. Long may she flourish, and send us such sons as these and George Alexander Gibson.

Sir David M'Vail, Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow, a Corporation founded in 1599 by the renowned surgeon, Peter Lowe, is one of those entrusted by our King to represent his country on the General Council of Medical Education. In that high office Sir David has often extended to us his wise counsel and advice, and we now gladly show our appreciation of his services by adding his name to our roll of Honorary Fellows.

Robert Saundby, Doctor of Medicine of the University of Edinburgh, Fellow of the Royal College of Physicians, London, is the Professor of Medicine in the great University of Birmingham, a University which has on its staff more than one of the graduates of our University. She has taken a Dixon and a Purser, names well-beloved in Dublin, and we welcome in return Professor Saundby.

William Sydney Thayer, Doctor of Medicine of Harvard,

and teacher in the Johns Hopkins Hospital, is no stranger in this College. As a visitor he charmed us with his oratory, and now we claim him as our own just as we have already claimed his great predecessor, the far-famed Regius Professor of Oxford.

Dr. Kirkpatrick then said:—I regret that I am unable to present to you two others whom we have delighted to honour. Our own countryman, the world-famed medical historian, Norman Moore, is, I regret to say, laid on the bed of sickness. We send him our sincere hopes for a speedy recovery. James Mackenzie, who has given us all so many new ideas, I regret to say is also prevented from coming to us.

ROYAL COLLEGE OF SURGEONS IN IRELAND

IN connection with the celebration of the Bicentenary of the School of Physic in Ireland, the Honorary Fellowship of the Royal College of Surgeons in Ireland was bestowed on Thursday, July 4th, on the following distinguished Delegates to the celebration:—

Prof. Irving Heward Cameron, LL.D., F.R.C.S. (Toronto).

Mr. Robert Jones, F.R.C.S., Honorary Surgeon to the Royal Southern Infirmary, Liverpool.

Sir William Macewen, D.Sc., LL.D., F.R.S., Regius Professor of Surgery, University of Glasgow; Hon. Surgeon to H. M. the King in Scotland.

Sir Henry Morris, Bart., F.R.C.S., President of the Royal Society of Medicine; Ex-President of the Royal College of Surgeons of England.

ROYAL ACADEMY OF MEDICINE IN IRELAND

ON Saturday, July 6th, Sir Charles B. Ball, Bart., President of the Academy, admitted to the Honorary Fellowship the following distinguished Delegates to the Bicentenary Celebration of the School of Physic in Ireland:—

George A. Berry, M.D., LL.D., F.R.S.Ed., Hon. Surgeon Oculist to the King in Scotland; President of the Royal College of Surgeons, Edinburgh.

David Drummond, M.D., D.C.L., Professor of Principles and

146 *Bicentenary of the School of Physic in Ireland.*

Practice of Medicine, University of Durham ; Senior Physician, Royal Victoria Infirmary, Newcastle-on-Tyne.

Auguste Charles François d'Eternod, M.D., Professor of Histology and Embryology, Geneva.

Knud Faber, Professor of Medicine, University of Copenhagen.

Henry Pottinger Keatinge, M.B., F.R.C.S., Director of the Egyptian Government Medical School, Cairo.

Hans Leo, Dean of the Medical Faculty, and Professor of Medicine and Pharmacology, London.

Howard Marsh, M.A., M.C., Sc.D., F.R.C.S., Master of Downing College, Cambridge.

Johan Nicholayson, M.D., Professor of Surgery, University of Christiania.

Sir George Henry Savage, M.D., F.R.C.P., Consulting Physician, Guy's Hospital ; late Physician and Superintendent, Bethlem Royal Hospital, London.

Vasili Vasilyevitch Strogaroff, Professor of Midwifery, University of St. Petersburg.

Anderson Stuart, M.D., LL.D., Professor of Physiology, University of Sydney.

The ceremony of conferring the Honorary Fellowship took place in the Hall of the Royal College of Physicians of Ireland in the presence of the President and Fellows of the College and of a large assembly.

INTERNATIONAL RED CROSS CONFERENCE AT WASHINGTON.

IN connection with this very important conference—the ninth held since the ratification of the famous Geneva Convention, which has done so much to humanise the conditions of war—an interesting competition was held. It was called the Marie Feodorovna Prize Competition, and was under Russian auspices, having been established by the Czarina in 1902. The subjects for competition varied from methods of organisation to Röntgen apparatus, and included a special class for methods of packing dressings at aid stations and in ambulances. In this class the only award was secured by Messrs. Burroughs, Wellcome & Co., for “Tabloid” compressed bandages and dressings. The jury consisted entirely of Russian and other Continental judges.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS

For four weeks ending Saturday, June 15, 1912.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended June 15, 1912, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 17.2 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,157,014. The deaths registered in each of the four weeks ended Saturday, June 15, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to the deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality:—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	May 25	June 1	June 8	June 15			May 25	June 1	June 8	June 15	
22 Town Districts	16.9	17.9	18.8	17.2	17.7	Lisburn	12.9	17.1	34.3	8.6	18.2
Armagh	13.7	13.7	—	6.9	8.6	Londonderry	15.3	12.7	19.1	14.0	15.3
Ballymena	22.9	9.2	18.3	9.2	14.9	Lurgan	12.9	4.3	8.6	12.9	9.7
Belfast	17.1	14.9	16.1	14.4	15.6	Newry	26.2	21.8	17.4	17.4	20.7
Clonmel	—	5.1	30.4	10.1	11.4	Newtownards	5.7	45.8	—	17.2	17.2
Cork	17.7	21.1	22.5	13.6	18.7	Portadown	8.9	8.9	8.9	8.9	8.9
Drogheda	25.2	33.6	16.8	4.2	19.9	Queenstown	13.2	46.1	26.4	—	21.4
Dublin (Reg. Area)	17.8	19.1	20.5	22.7	20.0	Sligo	23.4	—	9.3	28.0	15.2
Dundalk	11.9	7.9	27.8	11.9	14.9	Tralee	15.9	15.9	5.3	5.3	10.6
Galway	3.9	23.6	19.7	27.5	18.7	Waterford	19.0	28.5	20.9	19.0	21.8
Kilkenny	14.9	39.7	—	24.8	19.8	Wexford	13.7	31.9	31.9	22.8	25.1
Limerick	16.3	20.4	28.5	12.2	19.3						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, June 15, 1912, were equal to an annual rate of 1.7 per 1,000—the rates varying from 0.0 in fourteen of the districts to 7.9 in Galway, the 7 deaths from all causes for that district including one from each of scarlet fever and diphtheria. Among the 108 deaths from all causes registered in Belfast are one from whooping-cough, 2 from enteric fever, and one from diarrhoea or *enteritis* of a child under 2 years. Included in the 9 deaths from all causes registered in Limerick is one from whooping-cough, and one of the 4 deaths from all causes in Newry is also from whooping-cough. The five deaths from all causes registered in Kilkenny include one from scarlet fever, and the 2 deaths registered in Portadown one from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 403,732, that of the City being 309,738, Rathmines 38,330, Pembroke 29,347, Blackrock 9,090, and Kingstown 17,227.

In the Dublin Registration Area the births registered during the week ended June 15 amounted to 184—86 boys and 98 girls—and the deaths to 190—102 males and 88 females.

DEATHS.

The registered deaths, omitting the deaths (numbering 13) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 22.7 per 1,000 of the population. During the twenty-four weeks ending with Saturday, June 15, the death-rate averaged 24.0, and was 0.2 below the mean rate for the corresponding portions of the 10 years 1902–1911.

The total deaths registered, numbering 190, represent an annual rate of 24.4 per 1,000. The annual rate for the past twenty-four weeks was 25.4 per 1,000, and the average annual rate for the corresponding period of the past ten years was 25.0 per 1,000 of the mean population for all deaths registered.

The total deaths from all causes included 2 from enteric fever,

17 from measles, one death from mumps, 3 from diphtheria, one from whooping-cough, and 3 deaths from diarrhœa and *enteritis* of children under two years of age.

In each of the 3 preceding weeks, deaths from enteric fever were 0, 0, and 0 ; deaths from measles were 9, 12, and 14 ; deaths from whooping-cough were 2, one, and 2 ; deaths from diphtheria were one, 3, and 0 ; and deaths from diarrhœa and *enteritis* of children under two years were 4, 3, and 0, respectively.

There were 27 deaths from tuberculosis. The number includes 19 deaths from pulmonary tuberculosis, one death from each of abdominal tuberculosis, tubercular meningitis, and tuberculosis of the vertebral column, 2 deaths from disseminated tuberculosis, and 3 deaths from tuberculosis of joints. In each of the three preceding weeks, deaths from tuberculosis numbered 29, 31, and 27.

Broncho-pneumonia caused 12 deaths, and *pneumonia* (type not distinguished) caused 8 deaths. Organic diseases of the heart caused the deaths of 18 persons, and 12 deaths from bronchitis were recorded.

Fourteen deaths from cancer were recorded.

The deaths of one infant under one month, and of one child between the ages of one year and 2 years, were caused by *convulsions*.

Prematurity caused the deaths of 2 infants, congenital malformation 5 deaths, and congenital debility 3 deaths.

Of 4 accidental deaths 2 were by burns, one being of a child between the ages of one year and 2 years, and one of an adult over 65 years of age.

In 6 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 4 children under 5 years of age, and the deaths of 2 persons aged 65 years and upwards.

Fifty-seven of the persons whose deaths were registered during the week ended June 15 were under 5 years of age (22 being infants under one year, of whom 7 were under one month old), and 32 were aged 65 years and upwards, including 23 persons aged 70 and upwards. Among the latter were 13 aged 75 years and upwards, of whom one (a male) was stated to have been aged 92 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended June 15, 1912, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) ^a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis (<i>Phtisis</i>)	Acute Poliomyelitis	Total
City of Dublin	May 25	*	*	14	-	8	-	-	1	5	-	*	*	-	10	*	38
	June 1	*	*	14	-	6	-	1	1	5	-	*	*	-	7	*	34
	June 8	*	*	23	-	7	-	-	-	6	-	*	*	-	17	*	53
	June 15	*	*	16	-	7	-	2	2	4	-	*	*	-	8	*	39
Rathmines and Rathgar Urban District	May 25	*	*	-	-	2	-	-	-	-	-	*	*	*	*	*	12
	June 1	*	*	1	-	4	-	-	-	-	-	*	*	*	*	*	5
	June 8	*	*	6	-	2	-	-	1	-	-	*	*	*	*	*	9
	June 15	*	*	2	-	-	-	-	-	-	-	*	*	*	*	*	12
Pembroke Urban District	May 25	3	-	-	-	4	-	-	-	-	-	-	2	*	-	*	9
	June 1	3	-	-	-	2	-	-	-	-	-	-	-	*	-	*	5
	June 8	9	-	3	-	12	-	-	2	1	-	1	2	*	-	*	20
	June 15	7	4	2	-	1	-	-	-	-	-	2	2	*	-	*	18
Blackrock Urban District	May 25	*	*	1	-	-	-	-	-	-	-	*	*	-	*	*	1
	June 1	*	*	-	-	-	-	-	-	-	-	*	*	-	*	*	-
	June 8	*	*	-	-	-	-	-	-	-	-	*	*	-	*	*	-
	June 15	*	*	1	-	1	-	-	-	-	-	*	*	-	*	*	2
Kingstown Urban District	May 25	*	*	1	-	-	-	-	-	-	-	*	*	*	-	*	1
	June 1	*	*	3	-	-	-	-	-	-	-	*	*	*	2	*	5
	June 8	*	*	-	-	1	-	-	-	-	-	*	*	*	1	*	2
	June 15	*	*	4	-	-	-	-	-	1	-	*	*	*	-	*	5
City of Belfast	May 25	*	*	14	-	-	-	-	-	3	-	*	*	-	16	-	33
	June 1	*	*	13	-	5	-	-	1	3	-	*	*	-	9	-	31
	June 8	*	*	9	-	2	-	-	2	1	-	*	*	-	7	-	21
	June 15	*	*	16	-	-	-	-	4	-	-	*	*	-	6	-	26

^a Continued Fever.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended June 15, 1912, 30 cases of measles were admitted to hospital, 22 were discharged, there were 4 deaths, and 87 cases remained under treatment at the close of the week. In the three preceding weeks such cases were 62, 73, and 83 respectively.

Thirty-one cases of scarlet fever were admitted to hospital, 30 were discharged, and 157 cases remained under treatment at the close of the week. This number is exclusive of 9 patients under treatment in "Beneavin," Glasnevin, the Convalescent Home of Cork Street Fever Hospital, Dublin. At the close of the 3 preceding weeks the cases in hospital were 144, 151, and 156 respectively.

Eleven cases of diphtheria were admitted to hospital, there was one death, and 10 were discharged. The cases in hospital, which at the close of the 3 preceding weeks had numbered 55, 55, and 47, respectively, were 47 at the close of the week.

Two cases of enteric fever were admitted to hospital, 2 were discharged, there was one death, and 21 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of each of the 3 preceding weeks being 27, 22, and 22.

In addition to the above-named diseases, 14 cases of pneumonia were admitted to hospital, 9 were discharged, there were 4 deaths, and 31 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, June 15, in 95 large English towns (including London, in which the rate was 11.7), was equal to an average annual death-rate of 11.9 per 1,000 persons living. The average rate for 18 principal towns of Scotland was 14.8 per 1,000, the rate for Glasgow being 15.0, and that for Edinburgh 14.3.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended June 15. From this Report it appears that of

a total of 47 cases notified, 25 were of phthisis, 17 of scarlet fever, 2 of diphtheria, and 3 of erysipelas. Among the 315 cases of infectious disease in hospital at the close of the week were 71 cases of measles, 29 of diphtheria, 57 of phthisis, 101 of scarlet fever, 36 of whooping-cough, 7 of erysipelas, 3 of chicken-pox, and 3 of enteric fever.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of June, 1912.

Mean Height of Barometer,	-	-	-	29.765 inches.
Maximal Height of Barometer (26th, at 9 p.m.),	30.031	„		
Minimal Height of Barometer (4th, at 9 a.m.),	29.372	„		
Mean Dry-bulb Temperature,	-	-	-	56.2°.
Mean Wet-bulb Temperature,	-	-	-	53.6°.
Mean Dew-point Temperature,	-	-	-	50.7°.
Mean Elastic Force (Tension) of Aqueous Vapour	.377	inch.		
Mean Humidity,	-	-	-	82.5 per cent.
Highest Temperature in Shade (on 12th),	-	68.9°.		
Lowest Temperature in Shade (on 1st),	-	45.2°.		
Lowest Temperature on Grass (Radiation) (1st),	-	42.3°.		
Mean Amount of Cloud,	-	-	-	60.0 per cent.
Rainfall (on 23 days),	-	-	-	2.595 inches.
Greatest Daily Rainfall (on 2nd),	-	-	-	.259 inch.
General Directions of Wind,	-	-	-	W., S.W.



Remarks.

A broken, cloudy, rainy month—such must be the description of June, 1912. These features are explained by the distribution of atmospheric pressure over the Atlantic and Western Europe. Areas of relatively high barometer were generally found both in the Icelandic region and in the vicinity of the Azores. Between these areas a trough of low pressure existed, depressions of no great depth drifting slowly eastwards or northeastwards across the British Isles to the Baltic and the Continent. In the first week the centres of the low pressure systems were found over England or the English Channel. In Ireland, E. and N.E. winds prevailed, and the weather was generally finer than in England—the valley of the Thames receiving especially heavy rains. In the week

ended Saturday, the 15th, the weather remained in an extremely changeable state, with frequent falls of rain in all districts, and thunder and hail storms in many places. Over the S.E. of England a marked improvement took place after Monday, the 17th, and on Wednesday, the 19th, temperature rose to 83° in London and to 84° at Greenwich. Elsewhere the weather remained very unsettled, with frequent heavy rain in Ireland and the west of Scotland—in the latter country temperature was very low for the time of year, especially on the 17th, when the thermometer sank to 35° at Balmoral, 37° at West Linton, and 38° at many other Scottish stations. From this date to the end of the month areas of low atmospheric pressure were found over Ireland or off the N.W. shores of this country, and accordingly S. and S.W. winds prevailed, and rain fell in heavy showers—particularly in the afternoons.

In Dublin the arithmetical mean temperature (57.1°) was below the average (57.9°) by 0.8° ; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 56.2° . In the forty-eight years ending with 1912, June was coldest in 1909 (M. T. = 54.8°), 1907 (M. T. = 55.4°), 1882 (M. T. = 55.8°), and 1879 ("the cold year") (M. T. = 55.9°). It was warmest in 1887 (M. T. = 62.3°), 1896 (M. T. = 61.4°), and 1899 (M. T. = 61.3°). June, 1909, established a record for coldness. In 1911, the M. T. was 58.4° .

The mean height of the barometer was 29.765 inches, or 0.152 inch below the corrected average value for June—namely, 29.917 inches. The mercury rose to 30.031 inches at 9 p.m. of the 26th, and fell to 29.372 inches at 9 a.m. of the 4th. The observed range of atmospheric pressure was, therefore, .659 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 56.2° , or 2.9° above the corresponding M. T. for May, 1912. Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{Max.} - \text{Min.}) \times .465$, the value was 56.7° , or 0.7° below the average mean temperature for June, calculated in the same way, in the thirty-five years, 1871-1905 inclusive (57.4°). The arithmetical mean of the maximal and minimal readings was 57.1° , compared with a thirty-five years' average of 57.9° . On the 12th the thermometer in the screen rose to 68.9° —wind, W.S.W.; on the 1st the temperature fell to 45.2° —wind, E.N.E. The minimum on the grass was 42.3° , also on the 1st.

The rainfall amounted to 2.595 inches on 23 days. The average

rainfall for June in the thirty-five years, 1871-1905, inclusive, was 1.990 inches, and the average number of rain-days was 15. The rainfall, therefore and the rain-days were much above the average. In 1878 the rainfall in June was very large—5.058 inches on 19 days; in 1879 also, 4.046 inches fell on 24 days. On the other hand, in 1889, only .100 inch was measured on 6 days. In 1887 the rainfall was only .252 inch, distributed over 5 days. June, 1910, established an undisputed record for excessive rainfall in Dublin—the measurement being 6.211 inches on 19 days. In 1911, 1.743 inches fell on 11 days.

High winds were noted on 7 days.

The rainfall in Dublin during the six months ending June 30th amounted to 13.756 inches on 110 days, compared with 7.729 inches on 80 days in 1911, 18.632 inches on 111 days in 1910; 12.061 inches on 84 days in 1909, 11.729 inches on 107 days in 1908, 12.336 inches on 108 days in 1907, 12.641 inches on 109 days in 1906, only 6.741 inches on 67 days in 1887, and a thirty-five years' average of 12.030 inches on 96 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, reports that the mean height of the barometer was 29.795 inches, the highest reading observed being 30.055 inches at 9 p.m. of the 26th, the lowest, 29.388 inches, at 9 a.m. of the 4th. The arithmetical mean temperature was 56.3°, the mean dry-bulb reading at 9 a.m. and 9 p.m. being 58.3°. The thermometer rose to 69.9° in the shade on the 12th, and fell to 42.2° on the 9th. The grass minimum was 35.0° on the 1st. Rain fell on 23 days to the amount of 2.404 inches, .226 inch being measured on the 2nd. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 161.7, giving a daily average of 5.4 hours. The corresponding figures for 1905 were 217.6 hours and 7.3 hours; 1906, 210.3 hours and 7.0 hours; 1907, 129.4 hours and 4.3 hours; 1908, 181.4 hours and 6 hours; 1909, 158.7 hours and 5.3 hours; 1910, 139.9 hours and 4.7 hours; and 1911, 190.9 hours and 6.4 hours. The mean earth temperature read at 9 a.m. was 58.5° at a depth of 1 foot below the surface of the ground, 54.8° at a depth of 4 feet.

At Ardgillan, Balbriggan, Co. Dublin, Captain Edward Taylor, D.L., measured 3.58 inches of rain on 22 days, the heaviest fall

in 24 hours being .55 inch on the 24th. The rainfall was 1.33 inches above the average, while the rain days were 9 in excess. Temperature in the screen rose to 66.9° on the 9th, and fell to 43.5° on the 17th. Since January 1, 1912, the rainfall at Ardgillan amounts to 15.17 inches, or 2.76 inches more than the average, and the rain-days number 102, or 10 in excess. The extremes of rainfall in June at Ardgillan in recent years have been—greatest, 4.62 inches in 1910; least, 1.20 inches in 1904.

At Cheeverstown, Clondalkin, Co. Dublin, Miss Violet C. Kirkpatrick recorded 4.14 inches of rain on 26 days. The greatest falls in 24 hours at Cheeverstown were .42 inch on the 2nd and .41 inch on the 13th.

Dr. Arthur S. Goff returns the rainfall at Lynton, Dundrum, Co. Dublin, at 3.26 inches on 25 days, compared with 6.97 inches on 21 days in 1910, and 1.58 inches on 10 days in 1911. The greatest daily fall was .37 inch on the 2nd. The mean shade temperature was 58.4° . The thermometric range was from 73° on the 11th to 41° on the 7th.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson registered a rainfall of 2.78 inches on 23 days. The greatest fall in 24 hours was .39 inch on the 2nd. The mean temperature of the month was 56.2° , the extremes being—highest, 69° on the 12th; lowest, 31° on the 6th. The half-year's rainfall was 16.51 inches on 114 days, compared with 8.20 inches on 85 days in the same period of 1911.

Mrs. Olive F. Symes supplies the following record of the rainfall at Druid Lodge, Killiney:—Rain fell on 20 days to the amount of 2.70 inches, the maximal fall in 24 hours being .40 inch on the 2nd. The average rainfall for June at Cloneevin, Killiney, in the 24 years, 1885–1908, was 1.771 inches on 13.2 days.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, was 3.31 inches on 21 days. The heaviest fall in 24 hours was .60 inch on the 25th. The mean shade temperature was 56.0° , the extremes being—highest, 70° on the 18th; lowest, 43° on the 2nd.

Dr. C. Joynt returns the rainfall at 21 Leeson Park, Dublin, at 2.420 inches on 22 days, .270 inch having been recorded on the 2nd, and .250 inch on the 27th. The half year's fall was 13.484 inches on 105 days.

Dr. J. H. Armstrong reports that at Coolagad, Greystones, Co. Wicklow, the rainfall was 4.92 inches on 23 days. The

heaviest rainfall in 24 hours was .68 inch on the 23rd. On the 8th .64 inch fell, on the 27th .57 inch, and on the 24th .53 inch.

At Clonsilla, Greystones, Co. Wicklow, Dr. W. Stewart Ross measured 3.81 inches of rain on 19 days—.49 inch being recorded on the 27th. The mean temperature was 53.4° , the extremes being—highest, 70° , on the 12th, 15th, 18th and 19th; lowest, 40° , on the 1st. The mean maximal temperature was 61.0° ; the mean minimal temperature was 46.2° .

Dr. Charles D. Hanan, M.B., reports that at the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, rain fell on 20 days to the amount of 3.50 inches, the maximal fall in 24 hours being .56 inch on the 27th. The mean temperature for the month was 54.8° , the extremes being—highest, 69° on the 12th; lowest, 41° on the 1st. The mean maximum temperature was 61.0° ; the mean minimum temperature was 48.6° .

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell in June on 23 days to the total amount of 3.395 inches, .360 inch being registered on the 9th. The duration of bright sunshine was 140.3 hours, the most in one day being 11.9 hours on the 1st.

At the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Co. Dublin, Dr. A. J. Blake, Resident Medical Superintendent, recorded a rainfall of 4.52 inches on 24 days. The heaviest fall in 24 hours was .48 inch on the 2nd; on the 12th, .45 inch fell.

The Rev Arthur Wilson, M.A., reports a rainfall of 7.59 inches on 27 days at the Rectory, Dunmanway, Co. Cork. On the 21st 1.03 inches were measured. Severe frost occurred on the night of the 3rd. The rainfall for the completed six months of 1912 amounts to 32.15 inches on 126 days, the averages being 26.33 inches and 116 days. There were frequent thunderstorms on the first 10 days. The June rainfall at Dunmanway was 4.53 inches more than the average for that month in the last 7 years, and exceeded the aggregate June rainfall of the past 4 years by .22 inch. Thus, June, 1908, 1.19 inches; June, 1909, 1.18 inches; June, 1910, 2.79 inches; and June, 1911, 2.21 inches—total, 7.37 inches.

PERISCOPE.

SPLANCHNOPTOSIS OF VISCERA OF THORAX AND ABDOMEN.

MR. S. W., aged forty-three, weight 7st. 6lb., height 5 feet 7 inches, dark complexion. The chest was asymmetrical and flat; the supra-clavicular fossæ were very deep; interspaces between the first, second, third, and fourth ribs were very distinct. Low down on the right anterior aspect of the chest over the region of the liver the chest was markedly flattened. There was resonance on percussion over the entire area, without normal dulness—in fact, over the right upper portion of the chest and low down on the right side over the hepatic region there was hyper-resonance. On auscultation there were no abnormal sounds, no râles, except from the third rib up the respiratory sounds were very indistinct; neither were there evidences of bronchitis or tuberculosis, though the patient's general appearance indicated the latter condition. The heart was found to be abnormally low, but the sound showed no irregular action: rhythm regular, force decreased, no murmurs, no œdema, cyanosis, or dyspnœa; respiration, when quiet, fifteen. The liver was found below the eleventh rib. The right kidney was displaced downwards, and was lying under McBurney's point. The upper border of the stomach was at the navel, and the transverse colon was still lower. There was neither jaundice nor constipation. He suffered from pains over the front of the chest, which radiated upwards and outwards to the shoulders and down the arms to the elbows; he also suffered from dyspeptic pains with a dragging, heavy feeling, and from insomnia. The skiagraph showed an entire absence of lung tissue on both sides as low as the lower edge of the third rib, the upper border of the arch of the aorta being on a line with the lower border of the third rib. The heart, almost central in position, lay immediately behind the ensiform cartilage. The anterior attachment of the diaphragm is on a line with the vertebral attachment of the twelfth rib. The upper margin of the liver is only about two inches above the umbilicus. The stomach, almost vertically placed, is to the left, and its upper edge about one

inch above the umbilicus. The pyloric end is behind the pubic arch. The colon is coiled in irregular deep folds in the pelvis. The spleen is, strange to say, only about an inch below its normal site, and is apparently fibroid. By rest in bed, nutritious food, bandaging the abdomen, and elevation of the foot of his bed, together with forcible respiration and upward rubbing of the abdomen, the patient put on flesh and made a good recovery.—Dr. H. E. Jones, *Virginia Medical Semi-Monthly*, April 26, 1912.

BENNETT'S FRACTURE.

BENNETT'S fracture forms the subject of an interesting article by Dr. Francesco Frezzolini (*Rivista Ospedaliera*, Vol. II., No. 11). He describes the fracture, tells of its rarity, and reports the following case, which occurred at the Ospedale di San Giacomo in Rome, under the care of Professor Dalla Vadora:—R. A., aged sixty years, whilst ascending the stairs of his house, carrying a light in his hand, missed his foot, and fell on his left side. He made an attempt to break his fall by grasping the back of a chair. He was brought to hospital, suffering from a fracture of the left elbow, Colles's fracture of the right wrist, and many contusions. On being placed on his bed his mind was quite clear on the site of the fractures marked. The following day, when putting up the fractured left elbow and the fracture of the right wrist, and was examining the right hand, the patient complained that he could not move his thumb. We found at the site of the "snuff-box," *fovea radialis*, a slight swelling. The finger if lowered could not be raised, and could not be opposed to any of the fingers of the hand. Clearly we were not dealing with a case of simple dislocation of the thumb, and a skiagraph when taken demonstrated a Bennett's fracture, as described by that distinguished Dublin surgeon in 1881. Bennett and other surgical authorities recognised the fracture by (1) loss of function of the part; (2) deformity; (3) crepitation; and, above all, by its (4) reproduction after setting. The loss of function and the presence of deformity are easily recognised—flexion and extension, abduction and adduction are impeded; opposition to the other fingers is impossible. The deformity that constitutes the tumefaction in the anatomist's snuff box is identical with that produced by luxa-

tion. On palpation the swelling may be felt as a step of a ladder; lightly pressed down, the deformity will return, but if it is again pressed down firmly it will remain down like a depressed key on a piano—a fact of much importance in the diagnosis of the fracture.

LITERARY INTELLIGENCE.

MESSRS. J. & A. CHURCHILL announce that they have just ready for publication an important new book of about 1,400 pages royal octavo, with 645 illustrations, by Professor E. H. Starling, F.R.S. The volume is entitled “Principles of Human Physiology,” and in the preface the author comments as follows on this work:—“This mutual stimulation and co-operation among the different sciences have as their result a continual modification of our attitude with regard to the fundamental problems of physiology. The present time has seemed to me, therefore, fitting for the production of a text-book which, while not neglecting the data of physiology, should lay special stress on the significance of these data, and attempt to weave them into a fabric representing the principles which are guiding physiologists and physicians of the present day in their endeavours to extend the bounds of the known and to increase their powers of control over the functions of living organisms.”

LEPROSY.

DR. P. S. ABRAHAM, M.A., M.D., F.R.C.S.I., Dermatologist to the West London Hospital, and late Medical Secretary of the “National Leprosy Fund,” has recently written two papers on the subject of this disease. Of these the first, entitled a “Note on some Early Attempts at the Cultivation of the Bacillus of Leprosy,” was read at a meeting of the Society of Tropical Medicine and Hygiene on Friday, February 16, 1912. In his article on “Leprosy” in Allbutt and Rolleston’s “System of Medicine,” 1907, Vol. II., Part II., page 670, Dr. Abraham remarked that “since its discovery numberless attempts have been made by pathologists to cultivate the bacillus [of this disease] outside the body, but up to the present time without undoubted, absolutely certain, or well-confirmed success.” He is now glad to say that, in view of the recent investigations of Dr. Bayon, Captain T. S. Beauchamp Williams, I.M.S., and others,

that opinion, expressed in 1906, must be materially altered. In consequence also of what he has lately seen of Dr. Bayon's work at the Lister Institute, Dr. Abraham can no longer agree that "leprosy is strictly a human disease which cannot be transmitted to animals." Again, in a short article in the *Medical Press and Circular* for March 13, 1912, Dr. Abraham combats the proposal that leprosy should be scheduled under the Infectious Diseases Notification Act, 1889, as a disease likely to spread, and therefore dangerous to the Public Health. He quotes facts in support of his contention that it is by no means easy to find distinct evidence of its spreading by ordinary contagion, even in countries where it is endemic, and much less so in Great Britain and Ireland. He knows of no case which can be regarded as indigenous in these islands. In short leprosy nowadays does not spread here: to acquire it one must go to a leprous country. It is to be hoped that this expression of opinion by an expert will go far towards allaying the tendency, which seems to exist, to a recrudescence of the "leprosy scare" in the public mind.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

New Ophthalmic Tabloids.

Two new "Tabloid" Ophthalmic products have been added to their list by Messrs. Burroughs Wellcome & Co. These are "Tabloid" Ophthalmic Physostigmine Salicylate, gr. $\frac{1}{4000}$, and "Tabloid" Ophthalmic Pilocarpine Nitrate, gr. $\frac{1}{3000}$. They are intended for direct application to the eye without previous solution, and are suitable for use by patients themselves in place of eye drops, having the advantage over the latter of ensuring accurate doses. One of the physostigmine salicylate products is approximately equivalent to one drop of a solution of gr. $\frac{1}{8}$ to the ounce, and one of the pilocarpine nitrate products to one drop of a gr. $\frac{1}{6}$ to the ounce solution. These "Tabloid" Ophthalmic products are particularly valuable for use of the drugs over long periods. Both are issued in tubes of 25.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

SEPTEMBER 2, 1912.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IX.—*Phantasms of Life*.^a By WALTER G. SMITH, M.D.; ex-President, R.C.P.I.; Physician to Sir Patrick Dun's Hospital.

IF one were asked what are the two most weighty words in language, I imagine that few would hesitate to say, Life and Death—the beginning and the end of our temporal existence.

Yet, despite of their overwhelming significance, and the vast import of them to each one of us, who is bold enough to propound an adequate definition of either term?

Do not suppose that I will rashly venture to intrude upon such a profound and difficult problem as the mystery of life, which has baffled, and will for ever continue to puzzle mankind.

The distinction between living and lifeless is not capable of brief definition, and we are thrown back upon special characteristics of structure and motion (K. Pearson). It is a very remarkable fact that no definition of life has yet been given which will not include a crystal (Tutton). And this very difficulty is seized upon

^a A Lecture delivered before the Royal Dublin Society on Friday, February 9, 1912.

by those who assert there is no essential boundary line of demarcation between living and non-living substance, and it is used as an argument in favour of the possibility of spontaneous generation.

Most of us, however, will, I fancy, be content in regard to this question, to echo the famous *dictum* of Du Bois Reymond, and say after him *Ignoramus et ignorabimus*: or, following Locke, "to sit down in quiet ignorance of those things which, upon examination, are proved to be beyond the reach of our capacities."

From another point of view the same thought that we must be content to beat our wings for ever against imprisoning bars has recently been finely expressed by Sir G. Darwin:—

"Man is but a microscopic being relative to astronomical space, and he lives on a puny planet circling round a star of inferior rank. Does it not then seem as futile that he can discover the origin and tendency of the universe as to expect a house-fly to instruct us as to the theory of the motions of the planets? And yet, so long as he shall last, he will pursue his search, and will, no doubt, discover many wonderful things which are still hidden. We may, indeed, be amazed at all that man has been able to find out, but the immeasurable magnitude of the undiscovered will throughout all time remain to humble his pride. Our children's children will still be gazing and marvelling at the starry heavens, but the riddle will never be read" (Sir G. Darwin, "Nature," October 12, 1911.)

Such thoughts as these are directly applicable to biological problems.

As to the ultimate origin of life, there appears to be no escape from the alternatives:—*i.e.*, either—

(a) Life has existed from all eternity; or

(b) It has appeared at a certain definite time or period.

There is nothing unthinkable in the possible origin of life from inorganic matter, given certain conditions, or illogical in the conception that if we could go far enough

back we would find life under the guise of inorganic matter. The starting point of life has been the subject of keen speculation for ages, and of experiment within recent times.

For many ages people followed Aristotle in believing that eels were bred from the mud of rivers, and naturalists in the eighteenth century, such as Buffon, were convinced of the reality of spontaneous generation.

Despite of the unwearied advocacy of the veteran Dr. Charlton Bastian, and of a few other enthusiasts, it is almost universally accepted by scientific thinkers that the verdict as to so-called spontaneous generation is "not proven," and, as is well known, Pasteur gave the final quietus to the superstition.

Yet, although we cannot follow in Frankenstein's steps, and produce living from lifeless matter, or, with Goethe picture a *Homunculus* as arising by crystallisation, we can sometimes imitate the forms of organic life so closely as almost to deceive the very elect.

It must, however, be clearly understood that all we can do is to form a simulacrum or image of life which stands in much the same relation as a statue holds to a living creature.

M. Stephane Leduc has lately published a small book entitled "Physico-chemical Theory of Life and Spontaneous Generation," and I hope to show you some of his curious and suggestive experiments.

Few scientific people will be found to follow him implicitly, or be convinced by his arguments that the key to the enigma of life is to be found in the physico-chemical processes of diffusion and osmosis.

The general impression felt by a perusal of his book is this—that while his experiments are supremely interesting, his inferences are pushed too far, and some of his conclusions unsustainable; for he is unable to see a difference in kind, only in degree, between animate and inanimate objects.

Yet it is surely worth while to seek for any gleams of

light that can be thrown upon the mechanism of the building up of organisms, and this, in fact, is the main point to which I ask your attention to-day.

The operations and processes of nature are usually slow and gradual, and are seldom separated by the sharp lines of demarcation which superficial observation is apt to set, and which limit the experiments of the laboratory.

A growing plant, say, a cabbage, is as much alive as the vivacious and peripatetic flea, and we distinguish between them without difficulty. Still we cannot formally differentiate life from death, organic from inorganic substances, plants from animals. Corals were long believed to be plants, and the term "zoophytes"—*i.e.*, plant-animals—is a memento of the indecision upon this point.

Life may be latent, either in the animal or the vegetable kingdom, for a surprising length of time. Although the stories of the growth of mummy wheat are now discredited, it is none the less true that highly-organised seeds, and many lowly-organised plants and animals, can persist in an apparently lifeless state for a surprising length of time, even for many years, after complete desiccation, and can be subjected to almost incredible lowering of temperature without loss of vitality.

At the Jenner Institute, in London, spores of bacteria were immersed for twenty hours in liquid hydrogen at a temperature of -252°C —*i.e.*, only 21° above absolute zero—and yet their capacity for germination was not destroyed.

Can we draw the line between plants and inorganic nature? Not so easily as might hastily be thought, and, indeed, hard and fast distinctions are the marks of imperfect theory.

Do not some thinkers extend the conception of life to inorganic matter—say, to the materials of which our globe is composed?

Preyer, giving the reins to his imagination, and looking back through the immensities of time, fancifully

suggests that this globe, when in a state of fiery fusion long ages ago, should be regarded as a gigantic organism.

Its life consisted in its violent turmoil of movement. As it gradually cooled to its *rigor mortis*, it excreted the heavy metals which probably now form its core, its breath was, perchance, the vapour of iron, and its food, it may be, supplied by the engulfing of meteorites (Verworn, *Gen. Physiology*, p. 364).

It is not to be wondered at if people in an early and childlike state of knowledge attributed the awful phenomena of earthquakes and volcanoes to the workings of imprisoned demons, or reckoned them as groanings and struggles of internal diseases of our Mother Earth. The simple fact is that the seemingly firm crust of the earth is really never at rest; small earthquake palpitations occur somewhere or other once in every fifteen minutes, and a more considerable earthquake once every four days (Milne).

Unceasing and unconquerable movement is the presiding law of the universe, animate and inanimate—a truth enunciated by Heraclitus 2,500 years ago.

From the majestic movements of the heavenly bodies to that of every particle on the earth the same holds good. In respect to small magnitudes we were for ages content to limit our speculations to movements of gross molecular dimensions. Now, with the aid of the ultra-microscope, we can actually witness the dance of the molecules themselves revealed by the exquisite and hitherto inexplicable Brownian movements of minute particles suspended in a liquid. And, piercing still more deeply into the arcana of nature, we have learned to realise that the atom—the supposed indestructible and unalterable foundation-stone of chemistry—is a cosmos in itself, an amazing store-house of energy, and the theatre of movements and disruptions which almost blind our imagination by their velocity and kaleidoscopic changes. The purport of this lecture is to illustrate some strange phases of movement in inorganic substances.

Passing away from these thoughts, let us turn to more concrete considerations.

The title of my lecture is "Phantasms of Life." What is a phantasm? Does it not mean a deceptive appearance or image?

In living nature there are many examples of animated beings simulating, for protective or other reasons, either other living things, or, it may be, dead things.

I will take leave to turn the tables, and apply the word phantasm in a different connection.

For, I propose to show you some experiments whereby dead inorganic matter can be tempted to array itself in the outward garb of living bodies, with a truly surprising degree of likeness. This is a long way from saying that we can thus reproduce life.

The subject-matter of the lecture will be dealt with in two parts.

In the earlier part I shall briefly refer to some interesting properties of crystals in the light of recent researches upon so-called "liquid crystals."

In the latter part I hope to show you some experiments concerned with diffusion and osmosis.

All educated persons will, I think, admit that when we try to penetrate the secrets of life we find our best aids and surest guides in the cognate sciences of physics and chemistry. These two branches have, within the past twenty years, come into closer alliance, and have developed an intermediate, broad, and fruitful field of study, termed physical chemistry, which has, as it were, thrust itself between the two elder sciences. Not, however, as a dismembering wedge but rather as the link which binds the two into a harmonious whole.

Chemical changes are at the root of all life, and if we would fain seek for a criterion of animate substance we find that chemical flux and interplay is *the* best distinction between living and lifeless substance. The living cell is an energy machine or transformer. Chemical energy is the source of all other forms of energy in the

living organism. By its transformations are derived the manifestations of mechanical energy, light, heat, and electricity, and the connection between fermentation and life will be considered by Dr. Harden in a subsequent lecture. Experimental physiology, which arose in the middle of the sixteenth century, whether carried out on animals or man, deals mainly with such transformations.

And here I am reminded of an amusing anecdote, told by the late Sir Samuel Wilks, of an old lady who was declaiming against the horrors of vivisection. She went on to say that there was no cruelty or dreadful thing that scientific men would not do to find out how things acted. There was nothing that God had created but what they would destroy to look at its inside; but, "thank God," she ended, "they can't touch the beautiful aurora borealis."

The whole kingdom of nature is comprehended under the two headings of (*a*) inorganic, and (*b*) organic substances.

Yet even here the classification is convenient rather than absolute, and there is no fundamental distinction between inorganic and organic chemistry.

Inorganic bodies are usually described under the headings of solids, liquids, and gases.

But it is known for a long time that these states or modes of matter pass insensibly one into the other under varying conditions of temperature and pressure, and no sharp demarcation exists between them. We have become accustomed to the novel term "solid solutions," and we regard as such, glass, alloys, and many other substances. All gases have been liquefied, and CO_2 snow is now frequently used in medicine for the destruction of moles, warts, and other morbid growths.

A simpler and more convenient classification of inorganic bodies is into :—

- (1) Crystals, which can grow in size; and
- (2) Amorphous, or formless bodies, which assume no

definite shape or form, and are incapable of growth—*e.g.*, putty, pitch.

Let us consider for a moment what is meant by a crystal. According to current views the definition may be expressed as follows :—

A crystal is an architectural edifice, built up of chemical molecules upon a definite plan, and bounded by flat surfaces, or faces as they are called, mutually inclined to each other at certain constant angles. But in the light of Lehmann's persevering researches and remarkable discoveries this hard and fast geometrical definition of a crystal must be reconsidered, and our notions of a crystal must needs be enlarged. Lehmann's observations have unquestionably widened our conceptions of molecular forces, and we have to allow for the action of surface tension in modifying and deforming the shape of soft crystals.

At first sight a crystal seems to exhibit the very ideal of a hard, rigid, unchanging substance, which often beautifully reflects and refracts light, as seen in the lovely gem stones which, from time immemorial, are so highly prized.

Yet a moment's thought reminds us that every variety of hardness is displayed, and that soft crystals, easily deformable, are common enough.

It suffices to mention such substances as many metals—*e.g.*, lead and gold ; camphor and wax.

Moreover, many of the softer crystallised substances have the property of permitting one layer to glide over another by gentle side pressure with a knife blade when inserted in an edge or face in an attempt to cut the crystal—*e.g.*, calcite.

There are, further, cases of crystals, such as mica, so soft as to be readily bent, and some viscous substances form pliable crystals. All grades of rigidity have been observed between the ordinary solid and the liquid states. Hence, from the properties of soft crystals our minds are prepared for what, at first sight, seems as

absurd a paradox as to speak of a liquid horse—viz., the notion of liquid crystals, or, if the term be preferred, crystalline liquids. In short, we have to take into account every degree of hardness and rigidity from the diamond on the one hand to liquid crystals on the other. Crystals, we now find, may in truth, be solid and rigid, or liquid and mobile, and there is no break in the transitions from one to the other.

The weird phenomenon of liquid crystals is exhibited by certain complex organic compounds, which, when carefully heated, form at a definite temperature a turbid or milky liquid, with a mobility approaching that of oil or water. The milky fluid upon further heating suddenly becomes clear and amorphous, also at a definite temperature. Upon gradually cooling the clear liquids the reverse series of changes occurs. Many of these curious compounds are salts of cholesterin, a crystalline substance with which we sometimes make an unpleasant and unwilling acquaintance in the guise of gall-stones.

The microscope reveals that the turbid liquid consists of an aggregate of soft crystals which may assume forms of great variety, spherical, elongated rods, &c. Many of the substances exhibit a beautiful and definite play of colours in passing from the molten to the solid state. This gamut of colours has been proposed as a test for cholesterin. (Experiment shown.)

Crystalline solid $\xrightleftharpoons{\hspace{1cm}}$ crystalline fluid $\xrightleftharpoons{\hspace{1cm}}$ amorphous fluid.

Examined by polarised light these mobile crystals are seen to be doubly refractive, and they are dichroic—i.e., they show two different colours in different parts or directions.

A remarkable example of these flowing or liquid crystals is afforded by a variety of soft soap, termed oleate of ammonium, and which probably exists in ordinary solution in Scrubb's Cloudy Ammonia. The individual crystals are almost invisible in ordinary light owing to the refractive index of the crystals and of the mother liquor being approximately the same.

But, in polarised light with crossed Nicols, they are clearly revealed as brilliant, steep, double pyramids, with more or less rounded edges.

When the cover-glass under which these strange crystals are growing on a glass slip is moved to and fro so as to disturb these remarkable bodies, the singular effect is produced of causing them to become similarly oriented—*i.e.*, assume a common direction in their set.

Another substance (para-azoxy-benzoic acid), a derivative of benzoic acid, when melted shows groups of nearly rectilinear prisms with sharply-defined end faces. If two individual crystals approach each other they arrange themselves parallel, with a jerk, and then flow into each other, producing a single larger liquid crystal.

These extraordinary movements go on so rapidly that the eye can scarcely follow them, and the scene resembles a struggle between living things, in which the smaller ones are being continually gobbled up by the larger.

All this is very surprising, and to Lehmann's genius and persistency we owe the revelation of a new borderland of science. He has demonstrated beyond yea or nay the existence of liquids which possess many of the attributes of crystals, such as double refraction, optic axes, and definite orientation of the ultimate particles. In other words, the molecule is endowed with more individuality than has hitherto been ascribed to it.

Some of the phenomena connected with "flowing crystals" (Tutton) undoubtedly mimic the form and movements of living organisms, such as bacteria (slides shown), but we must not follow Lehmann in pushing the analogy too far. Similarity is not to be confounded with identity; and Lehmann's phrase "apparently living crystals" is a grotesque one, and suggests fantastic analogies for which there is no adequate justification. It may, at the same time, be admitted that the morphology of sphero-crystals in plants and of the pearl—the parasitic offspring of the oyster—is doubtless determined by physico-chemical processes.

DIFFUSION AND OSMOSIS.

What do we understand by these terms? By *diffusion* we mean the mutual interpenetration of the molecules of two or more different substances, whether solid, liquid, or gaseous, in spite of their varying densities—*i.e.*, in defiance of gravitation. This diffusion or mutual intermingling is, naturally, most obvious in gases, and it is the agency whereby the composition of the atmosphere is maintained practically constant over the entire globe. For, as you all know, the atmosphere is essentially made up of one-fifth of the heavier gas, oxygen, and four-fifths of the lighter gas, nitrogen.

All gaseous and liquid solutions are formed by process of molecular diffusion.

By *osmosis* is understood the process of diffusion as it occurs through or across a limiting surface, generally, but not necessarily, a definite membrane or porous partition.

Dialysis is another term for osmosis, and a dialyser is frequently used in laboratories for the separation of substances from each other, depending upon their different rates of transmissibility across a membranous partition. (Experiment shown.)

It is found that, in this respect, most bodies can be arranged under two groups, as formulated by Graham fifty years ago.

(1) *Colloids*, substances such as gum, starch, or glue (hence the name), which in solution do not or cannot pass across a membranous or porous partition. Many inorganic substances can be obtained in a colloid condition.

(2) *Crystalloids*, such as salt, sugar, &c., which, in solution more or less readily pass through membranes or porous partitions.

These two groups cannot be rigidly delimited nor sharply separated from each other; still, they are convenient descriptive terms, and are in general use. Strictly speaking, they represent conditions rather than forms of matter.

In our own bodies osmotic processes of diffusion are

silently and unceasingly going on between the tissue-cells, on the one hand, and the surrounding fluids on the other.

From a physico-chemical point of view, our body is a moist sponge traversed by innumerable currents and cross-currents of diffusion whereby the vital processes are largely carried out, for nature works with simple tools.

Every young living cell in our body is a complex structure containing in solution both crystalloids and colloids, and to and fro currents of diffusion are perpetually going on between the cells and the liquids—*i.e.*, blood and lymph—in which they are bathed, so that we may almost adopt the picturesque phrase of Sir Henry Armstrong, that living substance is “animated water.”

Most chemical experiments are carried out, for convenience, in a state of liquid solution, and reaction between two bodies in solution usually occurs quickly owing to rapid inter-diffusion. Let us contrast this quick exchange with diffusion or osmosis when more slowly executed or slightly impeded. For diffusion readily takes place, not only through water or other solvents, but also through solids. Chemical reactions quite readily are effected through a mass of jelly, as I can show you. (Experiment shown.)

The experiments shown to-day are not mere toy-shows. They have a deeper meaning and are calculated to throw light upon many obscure vital phenomena and upon morphological structure.

When a soluble substance in solution is dropped into another liquid which is capable of forming with it a colloidal precipitate, the drop surrounds itself with a thin layer of precipitate which forms an osmotic membrane, and so builds up an artificial cell. Such cells were first constructed by Traube forty years ago. (Experiment shown.)

In such a cell the dissolved substances exercise a strong osmotic pressure, and the cell swells just as a gas inflates a balloon. Water easily traverses the membranous envelope, penetrates within the cell, and fills the vacuum

which the distension tends to produce : the cell enlarges, and the membrane is stretched.

Such artificial cells may assume spherical, ovoid, or other forms, and may reach several centimetres in diameter.

Again, the first cell often gives birth to a second vesicle, and so on.

Now let us try some other experiments.

I drop a fragment of a solid salt, calcium chloride, CaCl_2 , which is readily soluble in water, into a certain solution of soluble silicates and phosphates, with which it forms insoluble precipitates. Observe what happens. (Experiment shown.)

A transparent colloidal precipitate of calcium salts (silicate and phosphate) is formed on the surface of the CaCl_2 , and sprouts from some irregularity or point as a globular projection. Osmosis at once takes place through the semi-permeable wall of the globule. This rapidly grows upward in the direction of least resistance, and speedily develops into a beautiful translucent tube, which, in a few minutes, may attain a length of several centimetres. In its quick growth, and in the internal movement of fluid within the tube there is a wonderful appearance of vitality when examined through a lens, or, when projected on the screen. (Experiment shown.)

In this and similar ways we can produce structures which are surprisingly like those formed by living beings. By slightly altering the conditions all sorts of imitations of vegetable forms can be reproduced—viz., rhizomes, stems, roots, leaves, and terminal organs, and yet the whole series of events is due solely to the physical force of osmosis. (Slides shown.)

Three functions usually considered as characteristic of life are :—

(a) Nutrition by intus-susception—*i.e.*, intake and assimilation of new molecules.

(b) Organisation.

(c) Growth.

Is it not truly a marvellous phenomenon to see, under the play of purely physical forces, a formless fragment of

a calcium salt grow regularly and organise itself into the form of a shell, a coral, or a mushroom. (Slides shown.)

Is not the production of definite forms by osmotic growth as full of interest as the production of form by crystallisation upon which so much labour has been spent, and the mechanism of which is still obscure?

Osmotic growths exhibit an evolutive existence, they nourish themselves by osmosis and intus-susception, they exercise a selective choice upon the substances presented to them, and they modify these chemically before assimilating them. Like living beings, they eliminate part of their substance in the medium in which they develop, they grow and build up forms resembling those of living things, and they are sensitive to many external influences which affect, to a remarkable degree, their development and their form.

The movements of living organisms are determined by two kinds of stimuli :—

(a) Stimuli, or excitations from without—*c.g.*, heat, electricity, &c.

(b) Internal stimuli, connected with nutrition—*c.g.*, the impulses which start and guide the rhythmical movements of the heart and respiration.

So it is with osmotic growths.

Like living things, they show two kinds of movements, for they respond to :—

(1) Excitations or stimuli from without—*viz.*, differences of temperature, variations of concentration, and so forth.

2. They exhibit rhythmical or periodical movements.

In conclusion, I trust that I have succeeded in impressing upon you the conviction of the importance—indeed the necessity—of looking at demonstrable facts in an unprejudiced frame of mind. I hope I have been able to show that physico-chemical processes have an intimate relation to biological problems, and that they must be, in future, taken strictly into account in the discussion of the agencies which mould the morphology of animal and vegetable life.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Care of the Skin in Health. By W. ALLAN JAMIESON, M.D., F.R.C.P.E., Knight of Grace of St. John of Jerusalem; Surgeon the King's Body-Guard for Scotland, the Royal Company of Archers; Consulting Physician for Diseases of the Skin, Edinburgh Royal Infirmary. London: Henry Frowde; Hodder & Stoughton. Oxford University Press. 1912. Small 8vo. Pp. 109.

As a rule, we object to a medical author writing a book on a professional topic for laymen readers, and still more to placing in laymen's hands a medical book. But so far as Dr. Allan Jamieson's dainty little volume is concerned, we hold that it should be studied from cover to cover by medical practitioners and by non-professional readers alike.

Based on a wide experience of skin diseases gained in thirty-five years spent in their study, the book is brimful of sound advice as to the care of the skin in health. It is divided into four sections, in sequence dealing with the structure of the skin, the care of the skin, the care of the hair and nails, and clothing and diet.

The first section occupies some 40 pages. The author has succeeded in describing the structure and functions of the skin in plain, clear language, easy to be understood of the people. We noticed only one or two omissions. The hair of the head, like the nails, grows more quickly in summer than in winter. This fact is mentioned as regards the nails, omitted as regards the hair. Dr. Jamieson might also have alluded to the interference with the growth of the nail caused by acute illness, especially fever, and which is indicated by the atrophic furrow to

which A. Vogel drew attention in 1870. His paper, entitled "Die Nagel nach fieberhaften Krankheiten," appeared in the *Deutsche Archiv für klinische Medizin* for that year (page 333).

In the other sections, notable points are the author's crusade against excessive use of soap, the abuse of tea-drinking, the inordinate use of hot baths, and indulgence in sweetmeats "whenever there is a disposition to 'spottiness.'" He considers that, in the case of the healthy scalp, soap as a detergent "should be scrupulously avoided. The most appropriate cleanser is a fluid extract of the bark of the *Quillaia saponaria*" (page 78). A teaspoonful mixed with half a washhand-basinful of warm water should be poured through the hair for about five minutes, the hair at the same time being gently pressed and then dried with soft, warm towels.

We have called the book a dainty one, and so it is: printed in clear bold type on thin, rough paper, and neatly bound, it does credit to the Oxford University Press.

The Care of the Teeth during School Life. An Address read before the Medical Officers of Schools' Association. By R. DENISON PEDLEY, F.R.C.S. Ed., L.D.S. Eng. President of the School Dentists' Society. Illustrated. London: J. & A. Churchill. 1910. Pp. 15.

It is perhaps a difficult matter, when addressing an audience of medical men on a special subject, to know how much information they may reasonably be expected to possess. Mr. Pedley has certainly not erred on the side of a liberal estimate, but starts boldly from the beginning almost as if he were speaking to laymen. However, he may have been right, and his brief account of the development of the teeth serves to emphasise his remarks on the feeding of infants, with which we entirely agree. The author very properly blames the popular craze for white bread which has resulted in flour being improved to the consumers' detriment, and adds that the bread manu-

factured from it is largely responsible for the prevalence of dental caries. But here we consider that Mr. Pedley has made an unfortunate omission in not giving a scheme for ideal meals and neglecting to draw attention to the hygienic value of fruit, especially in the fresh state.

Mr. Pedley is evidently a strong believer in the efficacy of the tooth brush, and lays much stress on "tooth brush drill" being taught at schools, which is undoubtedly good if supplemented by other measures. But we must confess to a feeling of regret that he has not indicated more clearly (as might have been expected from the title of his address) how the appointment of whole time School Dentists would work out, with regard to what teeth should be saved, what teeth should be extracted, at what age the children should be attended to, and the financial aspect of these appointments. There is little doubt that the important problem of the care of the teeth of school children has a considerable bearing upon national health, and consequently national wealth; it is a problem that must be faced in the near future, and Mr. Pedley's pamphlet will certainly do good work by helping to draw attention to this fact.

Systematic Case-taking. A Practical Guide to the Examination and Recording of Medical Cases. For the use of Medical Students. By HENRY LAURENCE M'KISACK, M.D., M.R.C.P. Lond.; Physician to the Royal Victoria Hospital, Belfast. Author of "A Dictionary of Medical Diagnosis." London: Baillière, Tindall & Cox. 1912. Cr. 8vo. Pp. x + 166.

THERE is nothing very new in this small volume. It deals with the questions of clinical methods in so far as they are required by the case-taking student. We think it admirably suited to its purpose. It has been carefully written, is clear in meaning, and well-ordered in arrangement. In parts—as, *e.g.*, in the possible causes of individual symptoms—it is so condensed as to be bewildering to direct reading, but these parts should be treated rather

as references for the case-taker, and as such should prove decidedly useful. We are glad to see the pulse so fully and practically dealt with. There is a tendency among students to pay this subject far too little attention. It is interesting, and we think quite correct, to see added to the classical methods of chest examination "and in some cases radiography"—though perhaps "an examination by the X-ray screen and plate" would be even better. In the article on percussion nothing is said of the necessity in general of percussing across the ribs. This we regard as an omission, as students have a natural tendency to lay the hand along the ribs in percussing.

The suggestion on p. 59 for producing an artificial resemblance to a friction sound is distinctly welcome, and should be helpful to the first-year student.

In describing Uffelmann's test for lactic acid, the student is not informed what reaction occurs if hydrochloric rather than lactic acid be present.

The examination of the urine is excellently treated—it is concise but thorough.

The book itself is well got up, and slips easily into the pocket—a point of some importance to the hospital student, to whom it can be recommended with confidence.

Annals of the Irish Harpers. By CHARLOTTE MILLIGAN Fox. London: Smith, Elder & Co. 1911. 8vo. Pp. xvi + 320. Six Portraits.

A HISTORY of ancient Irish music and musicians does not, at first sight, seem to be the class of book of which one would expect to meet with a review in a medical journal. The therapeutic properties of music, it is true, have from time to time been exploited with more or less success, and one might, perhaps, consider that those who studied the art should themselves come within the purview of medical history. We cannot, however, claim any such excuse for the notice of the book before us appearing in the columns of this journal, for though the work deals with Irish music and musicians no mention is made of

the application of their art by the musicians to therapeutic purposes.

Our interest in the work has quite another source, being connected with the personality of those whose labours have helped to preserve for us some record of the musicians and the music of our country. Edward Bunting, the story of whose life is told in the pages before us, devoted the greater part of his long life to the investigation of Irish folk-music. The value of the work which he did in this department of antiquarian research can hardly be over-estimated, and at the present time is perhaps more fully appreciated than ever before.

It is a source of much pleasure to us to recognise that the stimulus which directed the energies of Bunting to this work was largely due to a member of the medical profession. During the closing years of the eighteenth century Irishmen of all professions were engaged in a political struggle fraught with the most momentous consequences for the country, and one is not surprised to find members of the medical profession prominent among the leaders of the time. Though several medical men were intimately associated with the United Irishmen Movement they were not, as a rule, in full accord with the extreme views of the leaders of that party. The connection of Whitley Stokes and James Macartney with the United Irishmen is an example of this, and with them may be grouped the name of Dr. James MacDonnell, of Belfast.

At the muster of the Irish Volunteers in Belfast on July 11, 1792, to celebrate the fall of the Bastille, and to further the political propaganda of Ulster, MacDonnell and Stokes were content to leave to others the more purely political part of the gathering, and devoted their energies to the musical festival or gathering of the Irish harpers which was held in connection with the meeting. It was in connection with this musical festival that MacDonnell invoked the aid of young Bunting, and this started him on that career which has made his name notable among those of Irish antiquarians. James

MacDonnell had graduated in medicine in Edinburgh University in 1784, and shortly afterwards settled in Belfast as a medical practitioner. To him Belfast is largely indebted for its medical school, its great hospital, its dispensary and its natural history museum. Surely no small debt, and when one adds to it the debt which all Irishmen owe to him for stimulating the work of Bunting our profession may well be proud of her distinguished son.

It does not come within our province to pass any judgment on the main thesis of the book, but we tender our thanks to the authoress for the information she has given us about MacDonnell and his many-sided activities, and we feel sure that this information will be welcomed by many others in the profession as well as by ourselves.

Modern Methods in Nursing. By GEORGIANA J. SANDERS, formerly Assistant Matron at Addenbrooke's Hospital, Cambridge; Superintendent, Massachusetts General Hospital, Boston, &c. Philadelphia and London: W. B. Saunders. 1912. 12mo. Pp. 881.

THE text-book on nursing from the pen of Georgiana Sanders, which has just come out, appears fuller and more elaborate than most of those already published. It includes chapters on Bacteriology, Accidents and Emergencies, Cooking, Poisons, &c., as well as a very full account of all the procedures with which the nurse is supposed to be acquainted.

The most obvious criticism that occurs at once to the mind of the reader, looking at the matter from the doctor's point of view, is to question whether the author has not attempted too much, and to doubt the advisableness of instructing nurses in the full technique of such operations as spinal puncture, aspiration of the pleura, plugging for epistaxis, &c. Of course it may be argued that intelligent assistance cannot be rendered unless the nurse understands each detail of the operation, and as far as this goes the descriptions (which include practically all operations of minor surgery) are excellent, and, aided by good illustra-

tions, give a very clear idea of what is to be described. But to do justice to a plan of this magnitude, a whole volume would be required, and the necessary curtailing of some of the explanations in this section give an idea of simplicity and absence of serious danger which is, to say the least of it, misleading. The worst example of this in the book are the few cursory lines devoted to ante-partum hæmorrhage, which would certainly not give anyone the idea that it is (to quote one of our greatest authorities on this matter) “the most serious accident to which pregnant women are liable.”

The real value of the book, however, consists in the innumerable practical touches that must prove of great assistance to all who study it to aid them in their daily routine work. To give only one example—the plan of giving a list of the articles required on the tray for any proceeding, however simple, is very good, and if duly attended to would save much time (and sometimes temper) on the part of the doctor. There are also, almost in each page, practical suggestions and contrivances, all of which tend towards efficiency, saving of labour, and the comfort of the patient.

The sections devoted to the observation of the sick and the technique of the theatre could not be improved upon, and the article on the preparation of food is also very good.

The value of the book is further enhanced by several recipes, formulæ for the percentage modification of milk, tables of poisons and their antidotes, &c.

The illustrations—chiefly from photographs—are very good, and there is a comprehensive index.

The Prevention of Dental Caries. By J. SIM WALLACE, D.Sc., M.D., L.D.S. Second Edition. London: The Dental Record. 1912. 8vo. Pp. viii + 71.

FOR some years Dr. Sim Wallace's name has been well known not only to the members of his own profession, but to a certain extent to the general public as a vigorous

writer on the subject of dental caries. He has strenuously contended that our dietetic methods are and have been radically wrong, and are largely responsible for the alarming prevalence of this disease at the present day. As the first edition was very favourably received by the professional Press it is a matter of little surprise that a second edition was found to be necessary some six months later. In its 70 pages much valuable information is contained for all those who are responsible for the upbringing of our race, and who realise the importance of sound teeth in relation to general health. The main idea which Dr. Wallace seeks to impress upon his readers is—that every meal should be composed of such materials and in such sequence as to stimulate thorough mastication and leave the mouth self-cleansed at its conclusion. The author develops this idea in an introduction and some nine chapters. It is perhaps an oversight that the table of contents does not correspond with the divisions of the text, which makes it difficult to refer to certain portions of the pamphlet unless one looks to the paging rather than to the numbers of the chapters.

Undoubtedly the most important chapter of this little work is “Diet in Childhood,” it being the key to the whole position; here we are glad to find that Dr. Wallace very properly condemns the pappy food which is almost universally offered to infants as not only being useless, but positively harmful, inasmuch as it teaches them to bolt their food instead of masticating it, and he recommends that a child at the age of nine months should have a good crust of bread or piece of toast on which it can exercise its jaws by gnawing. It is a matter of common observation that at this period of life the irritation of teething prompts a child to convey everything to its mouth: it is better then that it should learn by experiment that mastication is a pleasant process if it be performed but properly. From a physiological point of view there can be no objection to giving starch in this form after the age of six months, since the salivary glands are already giving evidence of action, although the contrary view

found acceptance some years ago among older practitioners.

While we do not agree with all that Dr. Sim Wallace says—as, for instance, his prohibition of marmalade (which, if properly made so as to be sufficiently tart, tends to stimulate the flow of saliva), yet in the main his conclusions are undeniably sound and his directions for the feeding of children, if carefully followed, ought to reduce the amount of dental caries in the immediate future. As the work we are discussing is eminently suited to lay readers, practitioners of medicine and dentistry need not hesitate to recommend its perusal to their patients.

Text-book for Nurses. By E. W. HEY GROVES, M.S., F.R.C.S., Assistant Surgeon, Bristol General Hospital; and J. M. FORTESCUE-BRICKDALE, M.A., M.D., Assistant Physician, Bristol Royal Infirmary. London: Henry Frowde and Hodder & Stoughton. 1912. 8vo. Pp. xxiv + 407.

It is to be hoped that the very excellent and comprehensive text-book which has just appeared will be both bought and appreciated by nurses.

The book consists of three main sections—viz., Anatomy and Physiology, Surgery, and lastly, Medicine—as well as Appendices dealing with the structure of clinical instruments in common use, examination of the urine, collection of specimens for pathological examination, and tables of weights, measures, &c.

The chapters are intended to supplement the usual lectures given to nurses on the above subjects, and indeed the book forms as complete a work of reference on the subjects as any nurse requires to have. The only omission which would render it necessary that it should be supplemented here in Dublin is that there is no chapter specially on drugs or medicines, a subject which is generally taught separately, and at any rate needs to be brought into a little more prominence than is done in the medical section

of this work. Otherwise the book forms a comprehensive *vade mecum* with which any nurse might be content for her whole course.

For the way in which the book is brought out, and the wealth of illustrations it contains, the price (12s. 6d.) is very low, and it is to be hoped that this fact may be appreciated by nurses who are usually apt to economise rather too carefully in the matter of books.

We venture to criticise the adoption of the "Basle Nomina Anatomica" nomenclature in a work of this kind as likely to lead to confusion, for a nurse is more likely to hear a bone spoken of as the "astragalus" than as the "talus," and will certainly be puzzled with the "os multangulum majus"! An appended glossary helps, however, to clear up these mysteries.

Handbook of the Technique of the Teat and Capillary Glass Tube. By SIR ALMROTH E. WRIGHT, M.D., F.R.S.. London: Constable & Co. 1912. Large 8vo. Pp. xvi + 208.

THIS is a volume of about 200 pages. It is entirely different in plan and execution from any handbook of technique with which we are acquainted. It contains an account of methods elaborated by the author himself and his co-workers at St. Mary's Hospital, by means of which the most complicated quantitative estimations in bacteriology and blood analysis can be carried out.

The simple apparatus, the whole of which can be obtained for a few pounds, is first described; then follow chapters on elementary glass-work, on the making and graduation of the apparatus, and on the general principles of the technique. This is then applied to the various quantitative processes which can be carried out by these means. These include the measurements of the proportion of corpuscles to fluid in a sample of blood, of the coagulation time, the content in calcium and magnesium salts, the alkalinity and antitryptic power, and the salt contents in general.

Methods are next detailed for measuring the agglutinating, bactericidal, bacteriolytic and opsonic powers of the blood, for the Wassermann reaction, and for the preparation of vaccines.

The difficulty of explaining in words a complex manual process so that on reading the description the student can carry the process out is one which has been felt by every teacher. Sir Almroth Wright has deliberately set himself to overcome this difficulty, and has been marvelously successful in doing so. It is hardly too much to say that an intelligent child of ten years old, who used this book as a lesson book, could carry out every operation described in it. As examples of the lucidity of the exposition, the reader may take the account (pp. 46–51) of the difficulties which arise in the manipulation of fluids in capillary tubes by means of teats, or the description of the method of making blood films.

The most complicated, and at the same time perhaps the most ingenious, of the methods described is one which is not likely to be required for general use, but which is well worth studying as an example of the author's ingenuity in overcoming difficulties by the use of the simplest apparatus. It is his method of measuring iactericidal power under anaerobic conditions. The book is a most valuable aid to the very desirable end of converting the practising physician into a laboratory worker with the least possible expenditure of time and money.

The Therapy of Syphilis: Its Development and Present Position. By DR. PAUL MÜLZER, of Berlin, with a Preface by PROFESSOR P. UHLENHUTH, M.D., Privy Councillor. Translated by A. NEWBOLD. London: Rebman. No date. Cr. 8vo. Pp. xv + 248.

"THE Therapy of Syphilis, its Development and Present Position," by Dr. Paul Mülzer, of Berlin, and translated by A. Newbold, is a little volume that will supply its readers with a vivid description of the origin and evolution of the various arsenical preparations used in the modern

treatment of syphilis. Atoxyl, arsacetin, atoxylate of mercury, hectine, soamin, and so on through salvarsan (606) to Ehrlich's "hyperideal 606," are all described, together with the good and ill effects produced by their administration.

The greatest advantage which this useful work possesses is the frank and thorough manner in which the author reports the effects of treatment by these drugs on the various manifestations of syphilis. The inclusion of these reports will enable every practitioner to decide as to whether any given case of syphilis is amenable to salvarsan treatment or not.

Unfortunately, owing to the book having been published previous to the discovery of "neo-salvarsan" (or as it is also termed "914"), it contains no mention of this drug. The discovery of this latter preparation and the simplicity of performing the modified Wassermann reaction brings the expert treatment of syphilis within the sphere of every general practitioner.

We have no hesitation in stating that the only care now requisite in the treatment of this disease is the proper selection of cases, and we know of no work which so clearly enables us to recognise these as the book before us.

S. S.

The Extra Pharmacopœia of Martindale and Westcott.

Revised by W. HARRISON MARTINDALE, Ph.D., F.C.S., and W. WYNN WESTCOTT, M.B. Lond., D.P.H., H. M.'s Coroner for North East London. Fifteenth Edition. In Two Volumes. London: H. K. Lewis. 1912. Fcap. 8vo. Vol. I. Pp. xxxi + 1114. Vol. II. Pp. viii + 370.

THE spell is broken, and for the first time Martindale and Westcott's "Extra Pharmacopœia" appears in two volumes. The first volume resembles the last edition in size and shape. "It contains," we are told, "everything the physician and pharmacist are likely to require for immediate reference on therapeutic matters, while

the second volume acts as a supplement for further study." Volume II. embodies analytical and experimental work—much of which has been carried out in Dr. Harrison Martindale's laboratory. It also contains summaries of researches by eminent authorities, which have tended of late to throw light on the essential causes of many of the infective diseases.

A general "Posological Index," which includes some 12,000 headings, refers to both volumes, although it is printed at the end of the first volume. Here, too, will be found an enlarged "Therapeutic Index of Diseases and Symptoms."

The "Extra Pharmacopœia" has now assumed somewhat the character of a medical encyclopædia and *vademecum*. The first volume contains sections or "chapters" on organic arsenic compounds (in particular, "salvarsan"), iontophoresis, "nutrimenta," radiology, radium and thorium, vaccine therapy, and organotherapy. In its pages the inquirer will find upwards of 2,500 pithy abstracts of original communications from scientific journals alone, each with its date and reference page. In the second volume also are included synthetic notes, a note on physiological standardisation, a list of patent or proprietary medicines with their approximate composition, essays in relation to animal organotherapy, sections on mineral waters, British and Irish Health Resorts, notes on the antiseptic power of chemicals, analytical memoranda; analysis of water, milk, and butter; carbon monoxide and dioxide tests, ptomaines, examination of stomach contents, bacteriological and clinical notes in reference to special diseases, bacteriological examination of water, a table giving the international (1912) and the B. P. (1898) Atomic Weights and one of "rounded off" atomic weights, a new table illustrating the action of acids on the common metals and their oxides, an elaborate chart for the recognition of organic chemical bodies used in therapeutics, and glossaries of words and phrases likely to occur as directions in foreign prescriptions.

The foregoing enumeration of items will sufficiently

indicate the wide scope of the information contained in these volumes, which are, notwithstanding, of extremely moderate size and weight. Volume I. measures $6\frac{3}{4} \times 4\frac{1}{4} \times 1$ inches, and weighs less than 16 ozs. ; Volume II. has the same height and breadth, but is only half an inch in width, and weighs only $6\frac{1}{2}$ ozs. The whole work costs one guinea, by inland post fourpence extra, abroad to any part of the world, postage sixpence. The volumes may be had separately at a cost, post free, respectively of 14s. 4d. and 7s. 2d.

Dental Examination Papers for the Diplomas of the Royal College of Surgeons, Edinburgh, and the Royal Faculty of Physicians and Surgeons, Glasgow, for Several Years.
Edinburgh : E. & S. Livingstone. Pp. 60.

WHEN preparing for any examination there is no better method of testing one's proficiency than by answering the papers set at previous examinations. The collection of papers published by Messrs. Livingstone is for the years 1906-1911, so that the questions are well up to date ; they are well arranged, and there is a useful index.

Although these papers are primarily intended for those candidates who contemplate presenting themselves for the dental diplomas of the Royal Colleges at Edinburgh and Glasgow, still the scope of the questions is sufficiently wide to enable those intending to try elsewhere to form a fair idea of what is expected of them.

Golden Rules of Skin Practice. By DAVID WALSH, M.D.
Edin. Bristol : John Wright & Sons, Ltd. London : Simpkin, Marshall, Kent & Co., Ltd.

THIS little book on skin diseases first saw the light some twelve years ago and at once became popular with members of the medical profession. Since then four large editions have appeared, and thus the author has been enabled to keep the book up to date. We read the little volume with pleasure and interest ; and it is in no captious

spirit that we suggest that for scabies an ointment of styrax is a valuable and agreeable remedy ; and that in making stavesacre ointment the oil is to be preferred to the powdered fruit. Also, in the treatment of pediculosis capitis paraffin oil should have been included. Withal the book is appreciated by the profession and justly so.

Transactions of the Thirty-third Annual Meeting of the American Laryngological Association, held at Philadelphia, May 29, 30 and 31, 1911. New York : Published by the Association. 1911. 8vo. Pp. 315.

THIS volume of Transactions contains two papers on Naso-Pharyngeal Fibroma, a subject which has been much considered from an operative point of view. Much divergence of opinion exists as to the best method of operating in this affection. The older methods of removal consisted in working down on to the tumour through the face, jaw or nose, as the case happened to be, but all the best work of late has been done by means of the natural passages, and principally with the help of the galvano-caustic écraseur.

Dr. Delavan reports that he has had considerable success with this method, and gives lists of cases where others have had the same good results.

In the second paper by Dr. Pierce, the author goes into the question that these fibromata are single, and never multiple ; that they are usually attached to the upper and back part of the naso-pharynx, and that the tumour in a given case may spread in a variety of directions. He mentions a case where, while waiting to undertake an operation, he suddenly noticed that the tumour began to contract, and he was able, with great ease, to cut it off by means of a snare. This possibility should be borne in mind before a radical procedure is undertaken, especially in the case of mutilating operations.

Dr. Lockard discusses the question of the removal of the epiglottis in tubercular disease, when it has become

infected, and shows that this very simple operation, if performed early, saves the patient from many weeks of weary pain, when trying to take food, and may easily be the turning point towards recovery. He discusses the question of the infection of the perichondrium in these cases, and it is his opinion that this infection is of a tubercular nature, and not, as stated by Dr. Hajek and others, a super-imposed sepsis, finding entrance through the tubercular ulceration.

Dr. Stout read a useful paper on Syphilis of the Larynx, and recorded several cases where tertiary syphilis is responsible for much cicatricial contraction. In his paper, the author gives a description of various forms of tracheotomy tubes suitable for the treatment of this condition.

Two papers were contributed on Vaso-motor Rhinitis, and these are of special interest, as so many more of these cases come for treatment now than formerly. The two papers run much on the same lines, and the one notice will serve for both. The authors have endeavoured to classify the cases, but the classification does not seem to be of much assistance, as, in the first place, it is difficult to divide the cases according to their classification; and secondly, these divisions would include cases of other affections. On the whole, the treatment has proved most unsatisfactory. Various drugs were tried, both locally and internally, and various forms of operative treatment, such as cauterisation, were of some use locally. Serums were used, but without much effect. On the whole, change of climate seemed to be the most hopeful form of treatment.

Dr. Hudson Makuen contributed a very useful paper on the "Relation of the Tonsil Operation to the Soft Palate and Voice," and sounded a note of warning with regard to the very complete operation of tonsillectomy, which has found such favour in America. He showed that in not a few cases after this operation, adhesions and malformation of the pillars of the fossæ and soft palate were the result. This contingency would not be a nice one to contemplate did one carry out such an operation on a singer.

Dr. Swain continues in somewhat similar strain in a paper entitled "Are the Tonsils a Menace or a Protection?" in which he shows that various other treatments can produce excellent results, without necessitating a complete removal—for instance, the ordinary guillotine operation, cauterisation, &c. There can be no doubt that the pendulum is swinging back, and that, while tonsillectomy in the hands of a first class operator may give excellent results, an equally good operator can get corresponding results by the much simpler operation of tonsillotomy, without the necessity of the longer and more severe operation, and with the certainty that he will not have any malformation afterwards.

Pathology of the Eye. By P. H. ADAMS, M.A., M.B., D.O. Oxon., F.R.C.S. London: Henry Frowde and Hodder & Stoughton. Oxford Medical Publications. 1912. Cr. 8vo. Pp. x + 194.

WE warmly recommend this book to all Honour students of ophthalmology and those interested in this special branch. It should serve as an excellent preface to any of the larger works on the pathology of the eye. The book is written in a clear and concise style, and contains excellent plates.

The text is remarkably free from errors, the only ones noticed being "sight" for "site" on page 158, and on page 22 we fancy that "*Bacillus catarrhalis*" is a mistake for "*Micrococcus catarrhalis*."

The value of the book is greatly increased by a short survey of the histology of the part, the pathology of which is under consideration.

The best chapters are those entitled "Practical Pathology" and "Bacteriology of the Eye." They are simply written, containing no superfluous information, and should prove of valuable assistance to any one connected with a laboratory where eye-work is done.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

STATEMENT OF EVIDENCE GIVEN BEFORE THE ROYAL COMMISSION ON THE CARE AND CONTROL OF THE FEEBLE-MINDED.
By SIR CHRISTOPHER NIXON, Bt., M.D., LL.D., Past-President of the Royal College of Physicians of Ireland ; Senior Physician, Mater Misericordiæ Hospital, Dublin ; Consulting Physician, Central Asylum, Dundrum ; and Consulting Visitor in Lunacy to the High Court of Chancery in Ireland.

IN the evidence which I propose giving I desire to lay no claim to be regarded as an expert, but rather as a physician connected with a large general hospital in which there is an extensive field for the study of all forms of nervous disease, and also as visiting physician to the Asylum at Dundrum, Co. Dublin.

The terms of the reference apply in the first instance to the methods at present employed in dealing with idiots and epileptics, and with imbecile, feeble-minded, and defective persons, the latter not being certified under the Lunacy Laws ; and in the second instance to amendments in the law and other measures which should be adopted to obviate the hardship or danger resulting to such persons and to the community, from insufficient provision for their care, training, and control.

Before discussing measures of treatment which should be adopted for these different forms of mental defect, it is well to have a clear conception of their varieties, and of the ætiological conditions with which they are associated. I would be disposed to urge that these forms of mental disease which are under the consideration of the Commission should be put under two classes ; first idiots, representing the complete ament, in whom either from birth or an early age, from arrested development, or disease of the brain, there is a deprivation of

his observing and reasoning faculties to such an extent as to incapacitate him from any manifestation of intelligence greater than that of an infant ; and second, defectives. Amongst the defectives you have the following sub-classes : imbeciles, feeble-minded persons, and insane epileptics. The imbecile is distinguished from the idiot and the feeble-minded as being a person who, from a mental defect existing at birth, or from an early age, whilst capable of guarding himself against common physical danger, is incapable of education in the ordinary sense and unable to earn his living, or take care of himself in the usual affairs of life.

Insane epileptics may be idiotic, but the majority are defectives in which the prominent condition is one of imbecility, usually progressive in its nature.

The feeble-minded person, adopting the definition given by Sir James Crichton Browne, is one who, by reason of arrested development, or disease of the brain, dating from birth, or from some age short of maturity, has his observing and reasoning faculties partially weakened, so that he is slow and unsteady in his mental operations, and falls short of the ordinary standards of prudence, independence, and self-control. The difference between the imbecile and the feeble-minded is no doubt one of degree, the two classes bearing often the same relation to each other as the dull child bears to the normal, but, in most cases, the marks of distinction are clear and well defined.

I see no practical advantage in putting under a special sub-class either the "moral imbecile" or the "morally insane" person ; the vicious and criminal propensities of the former are merely a phase of the feeble-minded condition, whilst "moral insanity" is a form of mental disease standing by itself, not necessarily conditioned by feeble-mindedness. In all the classes mentioned the ætiological conditions associated with them must be carefully noted if prophylactic measures are to be taken to prevent or limit their occurrence, a consideration which must precede that of dealing with the defectives themselves.

So far as I have been able to follow the evidence given before the Commission, there appears to be on many points considerable divergence of opinion ; but the weight of authority, and my own individual views, lead me to lay down the con-

ditions producing idiocy, and the various defectives specified, under three heads :—

1. Those preceding birth.
2. Those occurring during birth.
3. Those occurring after birth.

1. The conditions preceding birth may be tabulated as follows—

- (a) History of insanity in one or both parents.
- (b) Epilepsy in one or both parents.
- (c) Congenital mental defect in one or both parents.
- (e) Acute mental disease occurring in an individual after puberty before the person becomes a parent.
- (f) Family history of tuberculosis.
- (g) Hereditary syphilis.
- (h) The marriage of near kin : this can only be admitted where there is some neuropathic taint, existing in both individuals, and becoming intensified in the offspring. Children born at the extreme limit of the reproductive age of either parent.

(i) Congenital cretinism.

2. The conditions occurring during birth are :—

- (a) Injuries to the child arising from deformed pelvis leading to prolonged labours.
- (b) Abnormal conditions affecting the placental circulation.
- (c) Injuries of the head dependent upon instrumental delivery.

3. The conditions occurring after birth may be laid down as follows :—

(a) Malnutrition from insufficient or improper food. This is largely due to the absence of the natural mode of providing sustenance for the child and its being substituted by condensed milk and various kinds of proprietary foods. These foods are apt to set up intestinal irritation, resulting in many cases in convulsions which may be the prelude to the epileptic condition. Trouble in connection with the teeth may lead to a like result.

(b) Defects depending upon environment and conditions of life under which the child is brought up : children living in over-crowded tenement houses, in squalid surroundings, breathing foul air, in association with criminal

and vicious influences embracing every form of moral depravation, and subjected often to cruel usage, are often rendered feeble, both in mind and body. I desire to emphasise what has been said in reference to this point by Dr. Albert Eichholz, that such mental and physical deterioration is specially to be noted in overcrowded urban areas, and that under favourable conditions as regards country air, good food, sunlight, and cleanliness, the indications of degeneracy vanish. This condition has been alluded to by some of the witnesses under the name of "spurious feeble-mindedness," a matter of importance in reference to the treatment of such cases.

(c) Febrile conditions set up in infancy in connection with the various infective fevers, such fevers being often ushered in or complicated by convulsions.

(d) Alcoholic excess or the acquirement of the drug habit, especially the use of morphine or cocaine.

(e) Syphilis. This produces paralysis in all forms, especially from disease of the brain, eventuating in general paralysis of the insane, or from disease of the spinal cord producing *tubes dorsalis*. In general hospital practice the physician comes across many varieties of cerebral syphilis in which, in the majority of cases, the condition is one of mixed infection, due in part to syphilis, in part to chronic alcoholic poisoning, the mental condition being one of either dementia or feeble-mindedness.

(f) The occurrence of mental overstrain. The pressure of modern life, with the factitious importance attached to competitive examinations in all our systems of education, not infrequently leads to nervous breakdown, with the result that a boy of moderate, or perhaps good abilities, becomes a mental wreck from over-pressure. This is specially to be noted in the precocious class, in which often there is no margin of recuperation to compensate for mental overstrain.

(g) The occurrence of cretinism as an acquired condition, occurring sporadically, usually within the first three years of life, sometimes following an acute illness and associated with atrophy of the thyroid gland. This is a condition so capable of being dealt with by special treatment that it will not be referred to again.

I. Taking the conditions which, preceding birth, are likely to lead to mental defects in the offspring, how little can be hoped for, in the present state of the law, and the usages of society, in the prevention of marriage where such disabilities exist. Most good will perhaps be gained through the influence of the clergyman and the physician, the one preaching the moral law which ought to guide those who desire to become parents, whilst the other teaches the ignorant the danger to themselves and others which results from marriage with epileptics, the phthisical, and the syphilitic.

There can be no doubt but that the principles of hygiene have been diffused with considerable advantage amongst the poorer classes, and that a knowledge of the hereditary transmission of such conditions as have been referred to, have had some deterrent effect upon those who desire to contract marriage. The element of selfishness, which dominates, more or less, the rule of human life, is likely to be largely influenced by knowing that the special danger in marrying a phthisical subject lies in inhaling the free, finely divided particles of sputum projected into the air during the act of coughing, and that from this danger there is the gravest risk of acquiring the disease. It might be pointed out how serious are the evils in connection with the transmission of syphilis, even though no preventive measures are taken to prevent the spread of this serious disease, serious not merely to the individual who acquires it, but to those to whom it may be transmitted. It is, unfortunately, not easy to conceive except in the directions indicated, how any other means can be devised to lessen the evil influences of the conditions referred to.

II. With regard to the conditions during birth which might lead to mental defects, I have asked my colleague, Dr. Alfred Smith, Professor of Midwifery and Gynæcology in the National University of Ireland, to state shortly the measures which should be taken to prevent, or minimise, those dangers. They are as follows :—

(1) To insure the best development of the fœtus, mothers should be instructed in the hygiene of pregnancy. Simple rules as to dietary and sanitary surroundings should be circulated, and the advantage of milk foods over all others should be advocated. It is admitted that a dietary poor in carbohydrates and fluids exerts a

marked influence upon the bulk of the child without otherwise affecting it.

(2) Having regard to the fact that contracted pelves are responsible for serious brain lesions, owing to prolonged labour, it would be desirable that pelvic measurements of pregnant women should be ascertained before the thirty-sixth week of pregnancy, with the object of determining whether or not it would be desirable to induce premature labour.

External pelvimetry will indicate pelvic contraction. Any trained nurse will be able to make the measurement necessary.

(3) More attention should be paid than heretofore to the so-called spoon-shaped depressions or indentations made by the promontory of the sacrum or forceps on the foetal head. These depressions or indentations are frequently associated with hæmorrhages on the surface of the brain, and occasionally with fracture of the bone, and they, consequently, may interfere with the development of the brain.

III. With regard to conditions producing defectives after birth, I should like my observations to refer specially to general measures likely to lessen some of the influences which predispose towards feeble-mindedness, to the treatment of the insane and feeble-minded population of workhouses, and to some points dealing with unsoundness of mind in criminals.

GENERAL MEASURES IN DEALING WITH THE FEEBLE-MINDED.

On most of the conditions with which feeble-mindedness is associated it is not necessary to dwell, as they have been brought fully under the notice of the Commission. The danger of insufficient or defective food in the case of infants, the necessity for special schools for defectives, and their disposal after the sixteenth or eighteenth year, need only be mentioned.

The question of environment is one which, I think, can hardly be too strongly emphasised having regard to its potency in developing conditions of physical and mental degeneration so grave as to be a menace to society. Those who are familiar with the conditions of life in the slums of any large city will freely admit that these, in regard to food, clothing, foul and

squalid surroundings, are exactly the conditions which lead to a low standard of physical health, and such a lowering of the moral standard as to develop criminal-mindedness and feeble-mindedness. It is in those slums that you have the most favourable conditions for the spread of consumption with its defective mental state, for you have here, with overcrowding and filth, foul air and deficient sunlight. It should not be forgotten by the well-to-do in our large cities that the starving poor constitute a standing menace in being the class most predisposed to take any form of infectious disease with which it may be brought in contact, and which it inevitably would be the means of propagating. The perils of an epidemic of small-pox, diphtheria, cholera, or the plague, illustrate my point; so—quite apart from social conditions which are represented by one class possessing wealth almost illimitable in its amount, whilst another can barely obtain food necessary to sustain life, with the potential elements which such a sharp distinction involves—the inhabitants of the dens of misery which are to be found in such numbers in this great city, regarded as the centre of civilisation, are sources of danger to the community at large. If any vigorous attempt is to be made to lessen conditions of life which predispose to defective states of body and mind, you must provide a better system of housing for the very poor; let them have air and sunshine, see that they have steady employment to give them sufficient means for good food, lessen the temptations of the gin palace by making life more endurable, and less depressive and morbid. If some comprehensive scheme could be devised, either by the State or by private benevolence, to radically change the condition of the poor in our large cities, the money would be well spent not merely fruitfully, but on principles economical in their nature. If we have now to provide *sanatoriums* for consumptives, special schools for defectives, institutions for the feeble-minded, as well as for the insane, is it not sound policy to lessen as much as is possible the numbers of those who have to be cared for? If good air and sunshine be substituted for the dark foul-smelling tenement room by how much would the number of consumptives be lessened. Air and sunshine have the most singular effect in certain conditions of tuberculosis. In many cases of abdominal tuberculosis the mere opening of the abdomen, admitting air and the sun's rays, completely cures

the disease. I may mention in this connection a curious personal experience. Some years ago, in a country place of mine near Dublin, my steward had charge of about 200 fowl of various kinds. They were crowded together in confined houses with a run, in none of which was there ever sunshine. A disease broke out amongst them, which proved to be tuberculosis, and the fowl died of it at the rate of seven or eight in the week. Two years ago a place was provided in an open field, having free exposure to sun and air, with the result that no tubercular disease has been again developed. I will only add a further word with regard to environment. Some years ago I read an article in the *Nineteenth Century* on experiences of work in an East End district by the Countess Cowper. In this interesting article a plea is put forward urging that the West End should familiarise itself with the conditions of life prevalent in the rookeries and slums of the East End, with a view of trying to elevate and cheer those who are struggling under very adverse conditions towards the light. Several measures of relief were discussed, several conditions leading to degeneracy. The proper housing of the very poor, the securing of good instead of poisonous meat at very cheap rates, the establishment of clubs for evening meetings of an educational or recreative type, the prevention of marriage at too early an age—a boy of sixteen marrying a girl of fifteen or sixteen—and the provision of open-air spaces for children and adults.

With people who evince so meritorious an interest in the lives of the Chinaman, the South African, the Bulgarian, and other European and Asiatic races, it should not be unavailably pleaded that more interest and active sympathy should be exercised as to the fate of the waifs and strays of our urban populations. Comments of this kind may, no doubt, seem to be visionary and impracticable, but bearing in mind how much has been done by private benevolence throughout the United Kingdom, how many institutions have been established to meet the necessities of the poor, is it too much to expect that those who are affluent should, when made acquainted with misery, bring succour to the distressed?

The only other point which I wish to discuss is the very important one of limiting the hereditary transmission of mental weakness. Whilst admitting that the influence of

heredity in the production of feeble-mindedness may be unduly emphasised, bearing in mind the law that in conditions of birth Nature tends to revert to the normal, still the evidence is so constantly before us of a parallelism in conformation, in disposition, in diathesis, of the child to the parent, that we may assume that in 30 to 40 per cent. heredity does play a part. This proportion is surely large enough to take steps to lessen its influence. On this point I have no hesitation whatever as to what should be done. The proposal of sterilisation is not one that can be considered in a Christian country, and we may at once dismiss it. But from every point of view it is imperative that feeble-minded and defective women should, when practicable, be kept in institutions from the sixteenth to the forty-fifth year; that is, during the entire procreative period. This specially applies to the "ins and outs" of the workhouse, and it is difficult to understand how the present regulations with regard to those women can be defended. That public money should be expended on the maintenance of a woman who devotes her life to prostitution, and who is likely to reproduce her own defective type in her offspring seems opposed to morality and common-sense. It may be a question as to what should be done with such women after their forty-fifth year. It would be hard to send them adrift unless they could be provided for by getting suitable employment, or that friends would take charge of them, but it should be possible to take care of them in institutions where they could help to earn their own living by service of various kinds.

THE INSANE AND FEEBLE-MINDED POPULATION OF THE WORKHOUSES.

In respect to this class several questions present themselves for consideration.

Should the entire class be removed from the workhouse?

Should a part, consisting of the most pronounced idiots and imbeciles be left there, whilst the remainder should be deported?

Should those who are taken from the workhouse be placed in auxiliary asylums provided by a change of a workhouse into an asylum, as has been accomplished in the auxiliary asylum at Youghal?

Or should a new institution be provided for this class,

embracing idiots, insane epileptics, imbeciles and feeble-minded, having due regard to economy ?

There are at present in the workhouses throughout Ireland, according to the latest reports of the Inspector of Lunatics, 3,320 pauper lunatics. This number shows a reduction on the previous year of 340, of which 220 cases were transferred from the workhouses in the city and county of Cork to the auxiliary asylum at Youghal. How are these 3,320 pauper lunatics to be dealt with ? No doubt some reasons may be urged for a retention of a part of this class in the workhouse, such, for instance, as the usefulness of some in doing work, the harmless nature of the mental defect, the proximity to home associations, &c., &c. But, on the other hand, the association of these defectives with the sane is objectionable, and it has upon both a depressing influence ; there is the danger of persons who are unable to look after themselves being neglected ; there is the danger of an outbreak of violence towards their own class or to others, against which there is no provision, and there is the important question of expense, as persons of this class require special nursing and care. For these reasons I am in favour of pauper imbeciles being provided for in institutions specially designed for them, and amongst this class I would include the feeble-minded of such a type as could be certified. The nature of the certificate would, necessarily, be a matter for careful consideration.

Then arises the question as to what institutions would be suitable for their reception. In Ireland, no doubt, the conversion of disused workhouses into asylums, on the score of economy, following the precedent set by the auxiliary asylum at Youghal, would be the most feasible plan. These should be carefully organised, so that the utmost care should be given to the improvable cases.

In the large class which would find its way into these auxiliary asylums, there would be a considerable proportion of improvable imbeciles and feeble-minded, and these persons should, I consider, be made the subject of special care. Their number would be reinforced by persons taken from the middle class in Ireland, or from the class intermediate between the pauper and the middle class, and for all this class I would strongly suggest a central asylum, available for all Ireland, run on the lines of Darenth Asylum. It is a matter for consideration as

to how such an institution should be supported. It might receive aid either from the Treasury, or from the rates, or from both, and I believe it would be helped by the charitable. I would be very slow to believe that in Ireland the springs from which flowed such helpful sustenance for many objects worthy of sympathy and support, have dried up. It is easy to point to a number of institutions, largely subsidised by private benevolence ; the Institution for the Deaf and Dumb, that for the Blind, the O'Brien Institute, the Stewart Institute for Imbeciles and Epileptics, the various reformatory and industrial schools, our metropolitan and provincial hospitals, are instances in point. Would not an institution for the feeble-minded attract substantial public support ?

In 1889 a Royal Commission reported with absolute unanimity that liberal grants should be made for the maintenance of two institutions for imbecile children in Ireland, one for Roman Catholics and the other for Protestants. I presume that the institution for Protestants would mean a considerable extension of the Stewart Institution. Unfortunately, like many Reports of Commissions, this one was not acted upon, and I venture to express a hope that the work of this Commission will not be similarly abortive. But the question of establishing a Catholic institution on the lines of the Stewart Institution was warmly taken up by His Grace the Archbishop of Dublin, Dr. Walsh, and he made an offer to set on foot a movement for the establishment of a Home for the shelter and education of these poor children, promising £1,000 to head a subscription list, and an additional £1,000 at the close of the first year's successful working of the institution. I have no doubt, if this project were helped by a promise of substantial aid, carrying out what was recommended in 1889, that a great and useful way of providing for a large class of our defectives would be found.

I confess, however, that to me the ideal institution for dealing with the defectives would be the establishment of a large colony under the charge of some religious order such as has been established in Ursberg, Bavaria, the work and organisation of which has been so fully described by Dr. Alfred Eichholz. This colony, under the charge of the Sisters of the Congregation of St. John, provides for the care of 752 mental defectives, 111 blind, 8 deaf mutes, and 145 epileptics. The

colony is self-contained, and provides for its own needs by its own industry. It is unnecessary that I should repeat what is so fully described by Dr. Eichholz, but I should like to endorse his words as specially applicable in a country like Ireland which can point to the good results effected by religious orders in ministering to the wants of its population. You have striking instances of this in the educational work undertaken by the religious Sisterhoods of Mercy and Charity, in the work done by the Christian Brothers in primary and intermediate education, in their care of the deaf and dumb, and in reformatory schools; in the care of the insane undertaken by the Brothers of St. John of God's, and by the French Sisters of Charity. If any of these orders, or orders of a like kind, Protestant and Catholic, could be prevailed on to take charge of a colony for the feeble-minded, such as exists in Ursberg, the problem of dealing with defectives in Ireland would be to a great extent solved. Whether this problem be viewed from the religious, or simply from the practical worldly aspect, the result is the same, and I heartily subscribe to the view of Dr. Eichholz when he says that, "Though the State may go far to solve the problem of its feeble-minded, even to endowing colonies such as Ursberg, it may yet feel grateful when voluntary effort steps in, for it is doubtful whether public money alone could ever command the self-sacrifice which such an undertaking demands."

CENTRAL CRIMINAL LUNATIC ASYLUM, DUNDRUM.

In reference to the criminal insane, I may perhaps claim to speak with some authority, as I have been for over twenty years consulting and visiting physician to the institution. There are some matters which in connection with the asylum and its population bear upon the work of the Commission to which I may briefly refer.

It is well to realise the differences existing between the two classes of inmates of the Central Asylum. Both consist of 150 individuals—129 males, and 21 women. Of these 115 men and 18 women are detained during the pleasure of the Lord Lieutenant, and are known as "Pleasure" inmates, whilst twenty-four men and three women are undergoing sentence of penal servitude, or imprisonment, and are known as "Convict" inmates.

These two classes differ widely from each other, not merely in the way in which insanity is developed, but in certain characteristics of mind, tendencies, and disposition, which in the convict are singularly uniform. The insane convict, usually a person of unstable mind, has become insane whilst in prison. With an hereditary history of insanity or alcoholism in most cases, his life from birth has been spent under conditions of poverty, recklessness, and crime. His propensities have been developed amidst an environment where every condition of life may be said to have been brutalised, and where the evil influence of association, coupled with the struggle for existence gradually develops what is so well known to prison authorities as "Criminal-mindedness," another name for the lowest type of moral degeneracy. On the other hand, the "Pleasure" inmate is most frequently one whose habits and associations are unobjectionable, but who under an insane impulse, which perhaps should or might have been guarded against, commits a crime, often of the gravest nature, which renders the individual amenable to the law. In not a few instances persons of this class when brought to the asylum are of perfectly sound mind, all the conditions which led to the mental disturbance having vanished. It is easy to realise the horror felt by this unhappy individual when compelled to associate with the moral lepers represented by the convict class. I may be permitted to mention a case illustrative of this.

Some twenty years ago a member of my own profession, who held a public medical appointment in Ireland, a man of most respectable connections, shot his wife whilst suffering from an attack of *delirium tremens*, for which I believe he received no treatment by restraint or otherwise. At his trial he was found to be insane on arraignment and sent to Dundrum. On admission there he was found to be perfectly sane, and during eight years of his detention he was exemplary in every respect and exercised by his personal conduct and character a salutary influence over at least some of his associates. Yet during these eight years he was obliged to mix in the day-room, dining-room, dormitory, and exercise ground, with the convict inmates. At the time of his detention no attempt was made to classify the inmates of the Asylum, and even at the present time the governor, Dr. Revington, who has been strongly commended for the administrative ability which he

has shown in the management and organisation of the Asylum is unable, from deficient and defective structural conditions, to do what is so essential in a criminal asylum to carry out a thorough system of classification. At present three classes are defined—the refractory, the convalescent, and the undefined class, but there still exists the grave objection of there being insufficient room, so that the refractory element is likely to overflow, necessitating the daily and nightly association of the restless, turbulent, and dangerous class with the harmless and well conducted members of the community.

Without dwelling at unnecessary length upon this point, I may mention that a small Departmental Committee has reported recently recommending structural and other alterations in the Asylum, with a view of largely increasing its capacity for the reception of suitable cases for detention and treatment. It is suggested that a new block should be erected with day-rooms, diningroom, and forty-five single bedrooms, with an airing court attached, and that as soon as practicable additional land should be acquired for the purposes of the institution. The necessity for extension of accommodation at Dundrum is called for not merely to provide a proper classification of its inmates but also to render it more suitable than it is for the reception of a class of cases which can or should be treated in the asylum, a matter which opens up the question of the relation of the asylum to the prison. In the prison there are three classes of criminals which have to be considered in reference to the question of mental unsoundness. One may be disposed of at once—viz., the cases which present no difficulty as to the recognition of insanity. These are at once transferred to the asylum. The other two classes present difficulties as to whether or not a sufficient degree of mental unsoundness exists to warrant certification, or whether or not the individual is counterfeiting insanity in order to escape the irksomeness of prison life. These two classes deserve a note of passing comment. Criminal-mindedness is an admitted type of mental depravation which represents to a considerable degree the mental characteristics of the convict, a condition involving a low mental standard, with bluntness of the moral sense, criminality, and viciousness of conduct, but the type does not necessarily imply irresponsibility, and therefore non-punishability. Such persons are not to be regarded as insane, because

the motives which regulate their acts are intelligible. Reluctance to work, gratification of the sensual instincts, the exercise of malicious intent to others, and the desire to escape from pains and penalties, constitute the ordinary sane motives for a line of conduct which from its extreme perversity suggests unsoundness of mind. These cases constitute a class in which it would be unreasonable to apply rigidly the standard of insanity and they come to be regarded as borderland cases, suitable for detention either in the prison or the asylum. If retained in prison, some relaxation of the rules which are ordinarily in force must be made, and a recognition implied of a mental estate which involves limited responsibility and therefore limited punishability.

Even with this exceptional treatment the mental balance is always in a condition of unstable equilibrium, and the criminal-mindedness of the individual leads him towards a line of conduct, so refractory in its nature as to render his detention in prison a matter of great difficulty. Such cases are usually certified and sent to the asylum. The change of environment, and the comparatively unrestrained life in the asylum, leads frequently to a salutary change in the convict's conduct, and he may give little or no trouble to those responsible for his management. It is, I believe, a good procedure to send those cases to the asylum. They are unmanageable in prison, and although when in the asylum the evidences of feeble-mindedness, as it affects personal responsibility, may become less and less accentuated, still the characteristics of the type are sufficiently marked to warrant, on the ground of prophylaxis, that the individual should be detained in the asylum.

But the class of case where the criminal-mindedness of the individual leads him to a course of conduct deliberately planned with the object of exchanging the penal discipline of a prison for the haven of asylum life must be put on a different footing. In this class there may not be present any evidences of feeble-mindedness. On the contrary, you have indications of a strength of will and purpose worthy of a better cause. The convict will commit any form of extravagance suggestive of insanity. He attempts suicide, on several occasions, without, however, succeeding in his object; he makes use of the foulest language, often studiously incoherent; he is extremely

filthy in his habits, commits violent assaults upon the warders, refuses food, and by his general course of conduct impresses the medical attendant that he is insane. He is, accordingly certified as of unsound mind and sent to the asylum. Within an incredibly short interval the scene completely changes. The evidences of mental disturbances pass away and the convict not infrequently admits that he shammed madness to escape prison life. There is no special credit due to the officials of the asylum for recognising the true state of things, often extremely difficult to interpret whilst the individual was acting his part. And yet the correct diagnosis of such cases is one of considerable importance in this respect, that no example should be set to others to pursue a similar line of conduct leading to a like result. There would be a complete subversion of the amenities and wholesome discipline of prison life if schemers were, in any way, encouraged to escape the sanction affixed by the law to their offence.

To sum up, I would say that as regards the insane convict there is no question but that he should be sent to Dundrum, and properly classified. With regard to the feeble-minded and borderland cases, whilst doubtless many such can be dealt with in prison, under modified conditions as regards dietary, exercise, association, and discipline, still in most instances, with an extension of Dundrum Asylum structurally, and in the acquirement of additional land, I consider it would be more desirable that these cases should be admitted to the Asylum. In these borderland cases there is always an element of doubt, especially where thoroughly competent observers have examined the prisoner, and differ in their views.

But the question of the possible extension of Dundrum Asylum suggests the advisableness of making a permanent provision for the feeble-minded and for the habitual criminal. The danger to Society of setting persons of this class free to continue their life of crime at the expiration of their sentence is one that should be faced. There is no institution in Ireland corresponding to Parkhurst in England, and I would venture to suggest that a special department having the same purpose as it has, should be established in connection with Dundrum Asylum. Without any considerable increase of expense, as regards administration, there would be a means of providing for the two classes referred to that would be beneficial alike

to them, as well as to society. They would be obliged to help towards their own maintenance by working on the land, or in connection with other suitable industries, and a life free from the struggles and temptations of times passed by, in which moral influences might help towards regeneration, would bring some measure of relief to these unfortunate classes. It may no doubt seem a strong measure to deprive an individual of his liberty after he has paid the penalty of his crime, but it can be fairly argued that he should be protected against himself, against conditions, hopeless for reformation and good conduct; that, returned to the world, he helps to swell the class from which criminals are recruited, free to begin again the course of violence and crime which inevitably will lead him within the meshes of the law. This is a natural sequence. The individual is known to the police, he cannot obtain employment, even if he were disposed to work, and notwithstanding Tallyrand's *mot.* he says to himself he must live. The question as to how such persons should be detained, either for life or until they showed such improvement in moral tone that they might be given a trial if steady employment could be obtained, or that they would be provided for by friends, is one that should receive careful consideration. A certificate signed by the prison authorities, with a full statement of the particulars of the case, and stating that the feeble-minded person, or habitual criminal, was a proper person to be detained at Dundrum Asylum, would be sufficient in the case where the prisoner had reached the end of his or her sentence. This might be strengthened in the case of the habitual criminal if the judge, in passing sentence, would direct permanent detention in the asylum, subject to certain conditions.

On one matter I entertain a strong opinion—namely, the transference of the insane convict to the County Asylum, at the expiration of his or her sentence. The introduction of an insane convict, often of the lowest type, amongst a community that is free from the dangerous elements of criminal-mindedness, is, to say the least a cruel and dangerous procedure.

Since writing the above I have learned that the New South Wales Parliament has recently adopted the indeterminate sentence for habitual criminals. By this procedure a judge is empowered in the case of criminals repeatedly convicted to

declare under the " Habitual Criminals Act " that the prisoner is an habitual criminal, which means that at the expiration of his term of sentence he shall be detained during His Majesty's pleasure in some place of confinement set apart for the purpose. If the prisoner gives signs of having made some moral improvement, and that he is fit to mix in decent society, he may be released, but otherwise the Government has a right to detain him as long as it believes his freedom would prove a menace to Society.

Since the evidence reported above was given the Royal Commission have presented their report, and in this are stated the recommendations applicable to England and Wales, to Scotland, and to Ireland. Although the original reference included Ireland, the extended reference to the Commission related only to England and Wales—*i.e.* " To enquire into the constitution, jurisdiction, and working of the Commission in Lunacy, and of other lunacy authorities in England and Wales, and into the expediency of amending the same, or adopting some other system of supervising the care of lunatics and mental defectives ; and to report as to any amendments in the law which should, in our opinion, be adopted." But in the discussion of several questions, relating more particularly to the difference in the methods which are pursued in Scotland and in Ireland in dealing with mentally defective persons, not certified under the Lunacy Laws, the Commissioners were, apparently, obliged to take into consideration those methods as contrasted with what obtains in England and Wales, with the result that they lay down that the general principles underlying their report as to England and Wales are applicable to Ireland.

Before pointing out what will be the outcome of legislation in reference to lunacy in Ireland, it should be emphasised that the Commissioners unanimously recommended :—(1) That all " defectives," using the term in its most comprehensive form, should be removed from Irish workhouses, and (2) that the auxiliary lunatic asylum system should be extended so as to provide for the reception of all chronic and harmless lunatics who are now in workhouses. The success of the Auxiliary Asylum in Youghal amply justifies this recommendation.

In reference to defectives the following Table indicates the magnitude of the provisions necessary to deal with this class.

In addition to those under certificates of unsound mind in the asylums in Ireland, the estimate of defectives is given in the report of the Commissioners as follows :—

Idiots	..	..	..	..	624
Imbeciles	..	..	..	..	2,811
Feeble-minded	..	..	..	..	4,013
Defective children (under sixteen)	..				6,688
Uncertified persons of unsound mind	..				8,900
Total					23,036

Of these, the cases requiring immediate provision are as follows :—

Idiots	..	..	..	..	580
Imbeciles	..	..	..	..	2,185
Feeble-minded	..	..	..	..	2,006
Defective children (under sixteen)	..				6,242
Uncertified persons of unsound mind	..				4,300
Total					15,313

Thus it appears that 15,313 defectives in Ireland have to be provided for, and in addition, a number of young defectives are detained in the asylums who ought to be segregated and dealt with the other class outside of the asylums. This large number is exclusive of lunatics received and detained in :—

- (1) District asylums.
- (2) Auxiliary asylums.
- (3) Licensed houses.
- (4) Lunatic hospitals.
- (5) Workhouses, under 9th Section of 38 & 39 Vict., c. 67.
- (6) As single patients.

It is clearly evident that some effort is imperatively necessary to deal with this problem, especially having regard to the recommendation of the Commission that the Council of each County, and the Council of each County Borough, should be required by statute to make suitable provision for the mentally defective in the County or County Borough.

How then will this statutory obligation be met? It is of interest to note the statements and recommendations in the report on this point. The Commission recommended that

Ireland, in view of its poverty, should receive a substantial building grant-in-aid in addition to a grant for maintenance, &c., and expressed the opinion that without such grant the necessary institutions could not be provided. Here lies the crux of the situation. From what source will the means be provided for the erection of buildings, for the housing, maintenance, medical supervision, and education of the enormous class for the benefit of which a statutory obligation may be enforced.

Without much light or leading it may be urged that the Mental Deficiency Bill if applied to Ireland involves, more or less, a leap in the dark.

May not the remedial legislation proposed be worse than the disease it professes to deal with—*Graviora quædam sunt remedia periculis*.

An influential body which has some right to be heard on the matter, the Irish Division of the Medico-Psychological Association, held, on the 1st of June last, a meeting to consider the Bill, when a resolution to the following effect was carried :—" That we, the Members of the Irish Division of the Medico-Psychological Association of Great Britain and Ireland, are unanimously of opinion that legislation for the care of the Mentally Deficient is urgently required, and we urge the necessity of this matter being dealt with by modifications to the Government Bill now before Parliament, so that its provisions may be extended to Ireland."

This action has been endorsed by various Asylum Committees throughout the country, who passed strong resolutions supporting the action of the Association.

But those who have followed the proceedings of the Royal Commission, whilst recognising the thoroughness of the reforms suggested in the methods adopted in connection with the feeble-minded in Ireland, will note the sympathetic references which are made to the financial condition of Ireland, a condition which presents an obstacle of a serious character to the carrying out of what is recommended. I may refer to some extracts from the report substantiating this statement. In page 440 the local conditions of Ireland are thus outlined :—

" The local conditions in Ireland are undoubtedly so serious, and the poverty of the country so pronounced, that we are of

opinion that substantial assistance in the way of a maintenance and building grant from the State, is not only justifiable, but essential, if proper provision is to be made for the large number of mentally defective who are in most urgent need of it."

In support of exceptional financial treatment for Ireland the following excerpts from the report may be cited:—

"In round numbers the population of Ireland (1901) is 4,457,000, and the rateable value is £15,200,000, or £3 8s. 2d. per inhabitant. But three-fifths of the value in agricultural land, and the 'assessable value,' in the sense of the English Agricultural Rates Act, that is taking into account land at only one-half its value and other property in full, is £2 10s. per inhabitant, whereas the average assessable value in England and Wales is over £5 per inhabitant."

"Thus it would appear that England is twice as rich in locally taxable ability as measured by this test in proportion to the population."

"After making every allowance for defects of valuation, it remains true that Ireland is much poorer than England in general, and parts of the West reach extreme depths of poverty, 10s. 'assessable value' per inhabitant being about the minimum in any union as compared with £2 10s. in England."

"We are of opinion that the above facts as to the financial position show that the ratepayers of Ireland could not possibly provide the institutions which, as shown in our report, will be necessary, unless they receive a substantial building grant-in-aid in addition to a grant for maintenance, &c. We find that Ireland has fifty-six insane out of every 10,000 of its population as compared with forty insane in England. We find that .57 per cent. of the population of Ireland were mentally defective (other than the certified insane) as against .46 per cent. in England. Moreover, what is even more serious, in view of the additional expense necessarily involved, we find that 66 per cent. of the mentally defective (other than the certified insane) population in Ireland is urgently in need of provision as against 44.45 per cent. of such mentally defective population in England."

The views expressed represent the dispassionate view of a body of experts, not one of whom can be said to specially represent Ireland in the investigations of the Commission.

It is scarcely conceivable that, in face of the Commissioners' report as to the absolute necessity for lunacy reform in Ireland, and at the same time the poverty of the country in dealing with the suggested reform, ways and means will not be forthcoming.

If I were to summarise the main objections to the Bill, I would tabulate them as follows :—

1. The setting up of a new authority whilst the existing one should, with necessary changes, be sufficient ; in other words, that the recommendation of the Royal Commission as to the Central Authority should be adopted. No new authority under the Home Office seems to be absolutely essential.
2. That the Bill interferes with the personal liberty of the subject. Of course it does. But with the liberty of what class of subject ? The subject who is unable to take care of himself, or herself, who is made the medium for the commission of crime, who is often utterly neglected, and whose life is spent in alternation between the prison and the workhouse. Under the provisions of the Bill these unfortunate people will be housed, fed, and looked after in institutions specially designed for them. How this can be regarded as a hardship it is difficult to understand.
3. There is the all-important consideration of the procreation of defectives as a result of the immorality of feeble-minded girls and women who constitute the class known as the " ins and outs " of the workhouse. Is the State to maintain a nursery for criminals and defectives ? Is it to provide liberty for those who in return threaten to swamp our population by the growth of the feeble-minded and the degenerate ? Are there no measures to be taken to diminish the supply of such persons ? Already all classes suffer from the making of expensive provisions for the care of those who it cannot be contended are useful members of Society, and for whose sake, if the present state of things continues unredressed, will mean the pauperisation of the fit, for the class which is a hopeless burthen on those who toil and spin. By all means let every safeguard be taken to protect the rights of those who

for a useful and necessary end are deprived of liberty ; but let the legislation which it is necessary to enact be free from that mawkish sentimentality which is responsible for so much that is wrong in our present social system and so pregnant of evil in the future.

That detention exercises a remarkable influence in limiting the multiplication of defectives is shown by an instance referred to by Dr. Dawson, one of the Assistant Commissioners to the Royal Commission on the Feeble-minded, and now one of the Inspectors of Lunatics in Ireland. In the Valley of Aosta, where cretinism was prevalent in the Sixties of the last Century, it has now become practically extinct owing to the establishment of a Home for Cretins under the charge of a religious order, and there is now not more than one or two cretins in the whole valley, including the Home.

4. There is no need to labour the financial aspect of the proposed legislation further than to say the terms proposed are utterly inadequate to secure what is the object of the Bill.

Whether or not the inclusion of Ireland in the Mental Deficiency Bill will give an opportunity of passing an amending and consolidating Lunacy Act for Ireland is a matter for the consideration of the Government. The English Acts of 1889, 1890, did this for England. The Acts governing the Lunacy System for Ireland are scattered through Statutes from 1821 (1 & 2 Geo. IV., Cap. 33) to 1901 (1 Edw. VII., Cap. 17). But the provisions of the Local Government (Ireland) Act, 1895, led to very considerable and salutary changes in the management of district asylums, not the least being putting the management in the hands of committees of the County Councils.

There are, however, many objectionable features of the Lunacy Laws in Ireland which demand redress, not the least being the barbarous mode of admission to District Asylums laid down in the tenth Section of the Act (30 & 31 Viet., Cap. 118) called the Dangerous Lunatics Act. Under the provisions of this Section, the alleged lunatic is arrested on the affidavit of a relative, or of the police, and brought before two justices, and on its being proved that such person was discovered under circumstances denoting derangement of mind, and a purpose

of committing some crime, for which, if committed, such person would be likely to be indicted, the justices shall call to their assistance the nearest Dispensary Medical Officer, and if he certifies that such person is a dangerous lunatic, or idiot, the justices direct his transfer to the asylum, which is carried out by the police. He, therefore, becomes, *ipso facto*, a criminal, and is treated as such.

But this question of a general revision of the laws relating to lunacy administration in Ireland may be regarded as one of secondary importance in contrast with that of the extension of the Mental Deficiency Bill to Ireland.

THE DIAGNOSTIC VALUE OF ANALYSIS OF THE CEREBRO-SPINAL FLUID.

M. W. MASTREZAT draws attention (*Gazette des Hôpitaux*, May 7, 1912) to the neglect of careful analysis of the cerebro-spinal fluid in pyrexial diseases, especially when cerebral symptoms are present. He thinks that a micro-biologism examination is not so helpful as a chemical one from the point of either diagnosis or prognosis; and he points out that in rachidian anæsthesia it has become a necessity. From numerous analyses of the fluid he gives the following as the composition of the normal secretion:—Specific gravity, 1007.50; albumen, 0.18 per litre; sugar, 0.53 per litre; chlorides (NaCl.), 7.32 per litre; dry extract, 10.93 per litre; carbonate ($\text{Na}_2 \text{CO}_2$) 1.25 per litre; alkaline ash, 1.43 per litre. In general affections, continued fevers, pneumonia, bronchitis, and so forth, the fall in the proportionate amount of chlorides was found in collocation with a meningeal hyperæmia and a participation of the cerebral centres with the congestion of their membranes; conditions very difficult to diagnosticate by clinical examination. And he instances the case of a young child in whom an analysis of the spinal fluid cleared up a very doubtful diagnosis. Its value in both uræmia and diabetes is helpful in prognosis and diagnosis; in the former a decided increase of chlorides is almost pathognomonic, and in the latter the presence of sugar and acetone settles the question of diagnosis. He concludes by affirming that of all resources for diagnosis analysis of the spinal fluid is the most helpful, the most precise, the most sure, and exhaustive.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR CHARLES BALL, BART., M.D., F.R.C.S.I.

General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

SECTION OF STATE MEDICINE.

President—M. J. NOLAN, L.R.C.P.I. & L.R.C.S.I.

Sectional Secretary—W. A. WINTER, M.D., F.R.C.P.I.

Friday, April 12, 1912.

THE PRESIDENT in the Chair.

Non-notifiable Infectious Diseases as a Cause of Mortality in Childhood, with Suggestions for their Control.

IN this paper SIR JOHN MOORE quoted statistics, culled from the Annual Report for 1910 of the Registrar-General for Ireland. [This paper was published in full at page 355 of Volume CXXXIII., No. 485, Third Series, May, 1912.]

THE PRESIDENT, commenting on the paper, said that permissive legislation in medical matters ought to be abolished, and especially so with regard to notification of infectious diseases. If a thing is right it should be done, and if it is not right it ought not to be there. He also agreed with Sir John Moore that children should not be sent to school before the age of five, as epidemics usually arose amongst the very young children, and schools had often to be closed for very long periods, thereby causing much injury to the education of older children.

SIR WM. THOMPSON (Registrar-General) pointed out that Pembroke was the only district in Ireland where the notification of measles is compulsory, and the death-rate in that district from the disease is very much lower than in others. Referring to the epidemic of measles in Belfast, which caused so many deaths, he was quite sure had notification been compulsory the medical officer of health would have been able to take steps to stem its severity. He thought the local authorities should take steps to point out the seriousness of measles, and that the matter should not be altogether left in the hands of parents and the Government. The medical inspection of school children was also one of much import-

ance, and members of the medical profession should make every effort to extend this practice.

DR. KIRKPATRICK differed from the author of the paper in looking upon notification as the panacea for infectious diseases. He pointed out that measles, some time ago, was a notifiable disease, but, as a result of the experience obtained, it had been given up, not by the local authorities but on the recommendation of the medical officers of health in England, not on the grounds of expense, or that it was a trivial disease, but on the ground that notification had failed to be of any use. With regard to the epidemic at Belfast referred to by the Registrar-General, he thought the medical officer should have been aware by the death certificates that measles was killing children by the hundred, but no steps were taken to stop it. He could not, therefore, see what benefit it would have been had there been compulsory notification. He maintained that until medical officers of health took some steps to put a stay on measles it would not be right to ask local authorities to spend money on notification.

DR. J. M. DAY was of opinion that it was wrong to attribute all these deaths to measles. Measles was the scavenger disease of a city, and if the children from unions are considered the death-rate amongst these is about ten times as high as amongst other children of the very poor, because they suffered from chronic syphilis, chronic tuberculosis, then measles breaks out amongst them, and their deaths are registered as from measles. He thought scarlatina ran measles very tight as a cause of death. Of course, it should be remembered that scarlatina does not usually attack children under five, and when children have survived this age in some of the bad districts they are able to overcome the ravages of scarlatina. Some few years ago he had communicated with the medical officers of health and with the medical officers of large fever hospitals in other cities, and their experience with union children were much the same as his. He thought notification would not effect an improvement. One of the powers which medical officers of health have is the appointment of nurses, and he wondered why this power had not been exercised in Dublin. As to the age when children ought to be sent to school, children are sent there so that mothers may have more time to attend to household duties. Medical officers of health had only

power to recommend the closing of schools, but the School Boards very often do not act on the recommendation as the teachers might thereby be deprived of a certain amount of their income, and, again, if the schools are closed the young children are sent to *crèches*, and thus no improvement is brought about by the closing. He could not see what use it would be to notify cases of pneumonia, as there is little evidence that there are many cases contracted by contact.

SIR JOHN MOORE replied.

The National Insurance Act and State Medicine.

DR. ROBERT ROWLETTE read a paper on the above subject. [This paper will be found at page 340 of Volume CXXXIII., No. 485, Third Series, May, 1912.]

DR. JELLETT said he had had an opportunity of gaining a knowledge of some of the Sections of the Act. Dr. Rowlette had drawn attention to two aspects of the Bill—the financial and the effect on clinical teaching. With regard to the extra expenditure, hospitals will have to pay for their staff and probationers, but the Commissioners are at present considering whether the paid staff of the hospitals should be looked upon as inmates of charitable institutions. However, when these inmates leave the hospital a payment would have to be made to restore them to the status that they should have had had they not been in the hospital, and Hospital Governors would require to consider whether such sums would not be greater than the ordinary insurance. Probationers could possibly be regarded as apprentices who are not in receipt of wages. As to maternity benefits, he would question what Dr. Rowlette had stated in his paper. The Act says—"The benefits shall be paid in part or in whole to his dependants," therefore the benefits are the husband's, and can be paid to his dependants. This was a very important point, as most patients coming into maternity hospitals will come as the wives of insured persons, and if it was impossible to pay the maternity benefit to the family unless they were her direct dependants women would not enter hospitals. He had made two suggestions which, if carried out, would be a great advantage:—(1) that the maternity benefit should in all cases be paid to the dependants of the husband of the patient. This would prevent the woman staying out of hospital. (2) In Ireland, as there are no certified midwives, any

woman attended by the students or pupil midwives of a hospital under the supervision of the officers of the hospital should be regarded as attended by a registered medical practitioner. Another point of importance was that as there is no medical benefit in Ireland certification must be given by some other means than by the doctor who attends the case. The Act provides that the Committees can consult medical relief registers, so that if a man attends a public dispensary he can get his sickness benefit; but there does not appear to be any provision for attendance at a hospital and getting a certificate. If this is so it will draw off a number of patients from the hospitals and send them to the poor law medical officers.

DR. STRITCH regarded the Act in a most favourable manner, and regretted that the medical benefit did not apply to this country. Everybody who must be insured would join an Approved Society, and most of the Societies with which he was acquainted were going to give medical benefit. These Societies would only pay a capitation rate of 5s., including drugs, and this rate would cover attendance on the whole family, whereas under the Act there might be several contributors out of the one household. An advantage to be gained by the Act from the point of view of the State will be that individuals who are at present debarred from sending for a doctor on account of the expense until it is too late can now have a doctor at once. He was of opinion that hospitals will not suffer as the medical benefit does not apply to Ireland.

DR. ROWLETTE, in reply to comments, said he hoped his reading of the Section referred to by Dr. Jellett was incorrect, as it would be a matter of much importance that Dr. Jellett's reading should be upheld. As regards the poor law relief register, he thought this would be inoperative, as the register did not give sufficient information. Other arrangements will have to be made for evidence as to illness of patients, or they will have to pay a fee for the certificate. He differed with Dr. Stritch as to the advisableness of medical benefit applying to this country. However, if medical men are willing to accept impossible tasks they have only themselves to blame. He could not agree that it would be an advantage either to the State or to the community.

SECTION OF MEDICINE.

President—SIR JOHN MOORE, M.A., M.D., F.R.C.P.I.

Sectional Secretary—F. C. PURSER, M.D., F.R.C.P.I.

Friday, May 24, 1911.

THE PRESIDENT in the Chair.

Case of Chronic Skin Disease.

DR. BOXWELL showed a patient who had been suffering for some years from an irritable skin disease of the whole surface. He discussed the validity of the diagnosis, and suggested the condition might be one of pityriasis rubra. In this the President concurred.

1. *Facial Paralysis resulting from Malignant Tumour of Left Internal Auditory Meatus.* 2. *Œsophagismus in a Child aged three years.*

DR. GEORGE PEACOCKE described two cases that had recently been under his care. 1. A man, aged sixty, was admitted to hospital complaining of pain in the back for three months previously. Ten days after admission left facial paralysis occurred, with deafness of the left ear. Subsequently the right side of the face became affected, but the paralysis was not complete. Total deafness resulted. Shortly before death, which occurred two months after admission to hospital, retention of urine suddenly developed. *Post-mortem* examination showed cancer of the prostate, with a small metastatic growth situated at the internal auditory meatus on the left side, involving the facial and auditory nerves. 2. A child aged three years was admitted to hospital on account of vomiting, which had been more or less persistent for the past eighteen months. Vomiting had started after a severe attack of whooping-cough. A brother had died, when five years old, of vomiting, which had commenced when three months old, and had with short intervals of freedom, continued through life. The child appeared well nourished, and nothing abnormal could be detected on examination except a loaded colon, which was easily relieved by enemata. Vomiting would occur

after a few spoonfuls of food were taken, and the remainder of the meal might be retained. Some days the vomiting was more severe than on others, and the character of the food seemed to make little difference. X-ray examination after a small bismuth meal showed the œsophagus full, none of the meal having reached the stomach. Examination with the œsophagoscope did not reveal any growth or stricture.

PROFESSOR SCOTT showed microscopic preparations of the prostatic cancer and the secondary growths. Besides the growth involving the left seventh and eighth nerves only one other growth was found—in a gland next the iliac artery.

DR. M'VITTIE, referring to Dr. Peacocke's second case, said he had met with a similar one in an adult. He submitted a rough sketch of Russell's dilator, an instrument which, he said, he had found useful in his patient, who was a man aged about forty. The œsophagus was capable of containing from 6 to 7 ounces. He passed the Russell's dilator, and trained the patient to do so himself after each meal. The patient gradually got better, and finally the condition disappeared altogether.

DR. CAHILL said that in a similar case he had devised a dilator himself which he found produced a good effect. He suggested that if Dr. Peacocke's patient were fed for a time by stomach tube good might be done.

DR. BOXWELL and THE PRESIDENT also spoke.

Meningitis due to Bacillus Typhosus.

DRS. O'CARROLL and PURSER gave an account of a boy, aged nine, who had been admitted to the Hardwicke Hospital as a case of typhoid fever. Widal's reaction was obtained on the fifth day of the illness. None of the usual signs of typhoid were present—no rose-spots, no enlargement of spleen, no diarrhœa. On the other hand, the mental condition was most suggestive of meningitis, and headache, retraction of the neck, and Kernig's sign were marked. Typhoid bacilli were grown in pure culture from the cerebro-spinal fluid, which contained as well 1,100 leucocytes *per cmm.*; of these, two-thirds were polynuclear and one-third mononuclear cells. The patient died three weeks after onset of illness. The membranes over the convexity of the brain were

covered with a purulent exudate. Over the occipital lobes the exudate was hæmorrhagic. *Bacillus typhosus* was separated in pure culture from the exudate. The bacteriological examination was made by Dr. T. A. Hughes, I.M.S. There was some slight congestion of the lymphoid tissue in the intestine, and in the right lung were three small patches of broncho-pneumonia. The other organs, including the spleen, were normal.

THE PRESIDENT said that the patient's chart showed that at two periods in the fever there was a remarkable slowing of the pulse, which was a familiar sign in cases of meningitis. The case illustrated what he had long felt—namely, that any abnormal localisation in a specific poisoning is bad. If enteric fever became localised in the lungs or brain it was bad. The same remark, he said, applied to pneumonia, which if accompanied with severe cerebral symptoms was very likely to prove fatal.

Remote Effects of Syphilis.

DR. DRURY read a paper on this subject. He dealt chiefly with the various affections of the nervous system which may follow the infection.

The paper was discussed by DRs. ROWLETTE, PEACOCKE, BOXWELL, PURSER, CAHILL, and CROWE.

PURIFICATION OF OYSTERS.

IN a paper on the "*Prophylaxis des accidents d'origine ostréaire*" (*Le Progrès Médical*, January 6, 1912) Professor E. Bodin, of Rennes, after examining the various methods which have been advocated for the purification of oysters, recommends the simple and efficient solution of M. Fabre-Domergue, Inspector of Fisheries. Oysters are kept for a week or ten days in tanks filled with filtered sea-water constantly renewed, where they gradually lose all their septic bacteria. Filtered sea-water may be replaced by artificial sea-water, and thus M. Fabre-Domergue's plan may be carried out as well in towns as far from the sea-shore.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS.

For four weeks ending Saturday, July 13, 1912.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended July 13, 1912, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 15.7 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,157,014. The deaths registered in each of the four weeks ended Saturday, July 13 and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to the deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality :—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c.	Week ending				Average Rate for 4 weeks
	June 22	June 29	July 6	July 13			June 22	June 29	July 6	July 13	
22 Town Districts	15.7	16.0	13.8	15.7	15.3	Lisburn	17.1	12.9	12.9	30.0	18.2
Armagh	—	13.7	27.5	—	10.3	Londonderry	8.9	25.5	10.2	12.7	14.3
Ballymena	18.3	4.6	13.8	13.8	12.6	Lurgan	17.2	—	8.6	21.5	11.8
Belfast	16.7	12.8	12.1	15.9	14.4	Newry	34.9	30.5	21.8	26.2	28.3
Clonmel	20.3	30.4	10.1	10.1	17.7	Newtownards	34.3	17.2	5.7	11.4	17.1
Cork	16.3	27.2	12.2	14.3	17.5	Portadown	26.7	—	13.3	4.4	11.1
Drogheda	16.8	12.6	21.0	—	12.6	Queenstown	—	6.6	13.2	13.2	8.3
Dublin (Reg. Area)	15.3	15.9	16.0	16.0	15.8	Sligo	14.0	4.7	14.0	9.3	10.5
Dundalk	11.9	15.9	23.8	7.9	14.9	Tralee	26.4	10.6	15.9	5.3	14.6
Galway	15.7	43.3	3.9	15.7	19.6	Waterford	15.2	13.3	11.4	26.6	16.6
Kilkenny	9.9	19.8	24.8	34.7	22.3	Wexford	18.2	18.2	4.6	9.1	12.5
Limerick	5.4	20.4	12.2	19.0	14.3						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, July 13, 1912, were equal to an annual rate of 1.2 per 1,000—the rates varying from 0.0 in fifteen of the districts to 7.9 in Galway, the 4 deaths from all causes for that district including one from each of diarrhœa and diphtheria. Among the 119 deaths from all causes registered in Belfast are one from enteric fever, 2 from measles, and 3 from diarrhœal diseases. Included in the 14 deaths from all causes registered in Limerick is one from whooping-cough, and one of the 6 deaths from all causes in Newry is also from whooping-cough. The 7 deaths from all causes registered in Kilkenny include one from typhus, and of the 3 deaths registered in Ballymena one was from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 403,732, that of the City being 309,738, Rathmines 38,330, Pembroke 29,347, Blackrock 9,090, and Kingstown 17,227.

In the Dublin Registration Area the births registered during the week ended July 13 amounted to 194—112 boys and 82 girls—and the deaths to 130—73 males and 57 females.

DEATHS.

The registered deaths, omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 16.0 per 1,000 of the population. During the twenty-eight weeks ending with Saturday, July 13, the death-rate averaged 22.8, and was 0.2 below the mean rate for the corresponding portions of the 10 years 1902-1911.

The total deaths registered, numbering 130, represent an annual rate of 16.7 per 1,000. The annual rate for the past twenty-eight weeks was 24.2 per 1,000, and the average annual rate for the corresponding period of the past ten years was 24.1 per 1,000 of the mean population for all deaths registered.

The total deaths from all causes included 7 from measles, one death from influenza, and 7 deaths from diarrhœa and enteritis of children under two years of age.

In each of the 3 preceding weeks deaths from measles were 11, 4, and 7; deaths from influenza were 0, 0, and one; and deaths from diarrhoea and *enteritis* of children under two years were 3, 5, and 4 respectively.

There were 22 deaths from tuberculosis. The number includes 13 deaths from pulmonary tuberculosis, one death from tubercular meningitis, 3 deaths from disseminated tuberculosis, and 5 deaths from abdominal tuberculosis. In each of the three preceding weeks, deaths from tuberculosis numbered 23, 22, and 20.

Broncho-pneumonia caused 5 deaths, lobar pneumonia 4 deaths, and *pneumonia* (type not distinguished) caused 3 deaths. Organic diseases of the heart caused the deaths of 12 persons, and 9 deaths from bronchitis were recorded.

Nine deaths from cancer were recorded.

The deaths of 3 infants under one year, and of one child between the ages of 2 years and 5 years, were caused by *convulsions*.

Prematurity caused the deaths of 3 infants, congenital malformation one death, and congenital debility 4 deaths.

Of 3 deaths from accident or negligence, one was by drowning.

In 6 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the death of one infant under one year old and the death of one person aged 75 years.

Fifty-one of the persons whose deaths were registered during the week ended July 13 were under 5 years of age (30 being infants under one year, of whom 9 were under one month old), and 20 were aged 65 years and upwards, including 14 persons aged 70 and upwards. Among the latter were 8 aged 75 years and upwards.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act,

1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended July 13, 1912, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) ^a	Typhoid Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis (<i>Phthisia</i>)	Acute Poliomyelitis	Total
City of Dublin	June 22	•	•	17	-	9	-	-	6	5	-	•	•	-	•	•	43
	June 29	•	•	12	-	4	-	12	6	8	-	•	•	-	10	•	45
	July 6	•	•	14	-	4	-	-	3	4	-	•	•	-	14	•	33
	July 13	•	•	13	-	3	-	-	2	4	-	•	•	-	12	•	34
Rathmines and Rathgar Urban District	June 22	•	•	1	-	-	-	-	-	1	-	•	•	•	•	•	5
	June 29	•	•	6	-	1	-	-	-	-	-	•	•	•	•	•	12
	July 6	•	•	1	-	-	-	-	1	-	-	•	•	•	•	•	5
	July 13	•	•	3	-	1	-	-	1	-	-	•	•	•	•	•	8
Pembroke Urban District	June 22	16	1	-	-	-	-	-	-	-	-	-	2	•	-	•	16
	June 29	11	-	2	-	-	-	-	-	-	-	-	10	•	-	•	23
	July 6	18	1	1	-	1	-	-	-	1	-	-	4	•	-	•	26
	July 13	11	-	6	-	-	-	-	-	-	-	-	9	•	-	•	26
Blackrock Urban District	June 22	•	•	6	-	-	-	-	-	-	-	•	•	-	•	•	6
	June 29	•	•	1	-	-	-	-	-	-	-	•	•	-	•	•	3
	July 6	•	•	3	-	-	-	-	-	-	-	•	•	-	•	•	5
	July 13	•	•	2	-	-	-	-	-	-	-	•	•	-	•	•	2
Kingstown Urban District	June 22	•	•	1	-	1	-	-	-	-	-	•	•	•	-	•	2
	June 29	•	•	1	-	-	-	-	-	-	-	•	•	•	-	•	4
	July 6	•	•	-	-	-	-	-	-	-	-	•	•	•	-	•	3
	July 13	•	•	-	-	1	-	-	-	-	-	•	•	•	-	•	1
City of Belfast	June 22	•	•	12	-	1	-	1	-	2	-	•	•	-	7	-	23
	June 29	•	•	15	-	4	-	-	1	5	-	•	•	-	9	-	34
	July 6	•	•	12	-	3	-	-	2	4	-	•	•	-	12	-	33
	July 13	•	•	7	-	4	1	-	1	2	-	•	•	-	7	-	22

^a Continued Fever.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended July 13, 1912, 35 cases of measles were admitted to hospital, 27 were discharged there were 5

deaths, and 100 cases remained under treatment at the close of the week. In the three preceding weeks such cases were 98, 97, and 97 respectively.

Thirty-three cases of scarlet fever were admitted to hospital, 22 were discharged, and 147 cases remained under treatment at the close of the week. This number is exclusive of 22 patients under treatment in "Beneavin," Glasnevin, the Convalescent Home of Cork Street Fever Hospital, Dublin. At the close of the 3 preceding weeks the cases in hospital were 149, 143 and 136 respectively.

Five cases of diphtheria were admitted to hospital and 14 were discharged. The cases in hospital, which at the close of the 3 preceding weeks had numbered 44, 45, and 48, respectively, were 39 at the close of the week.

Two cases of enteric fever were admitted to hospital, and 23 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of each of the 3 preceding weeks being 16, 19, and 21.

In addition to the above-named diseases, 7 cases of pneumonia were admitted to hospital, 2 were discharged, there were 2 deaths, and 11 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, July 13, in 95 large English towns (including London, in which the rate was 11.3), was equal to an average annual death-rate of 11.6 per 1,000 persons living. The average rate for 18 principal towns of Scotland was 13.4 per 1,000, the rate for Glasgow being 12.3 and that for Edinburgh 16.1.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended July 13. From this Report it appears that of a total of 58 cases notified, 25 were of phthisis, 19 of scarlet fever, 8 of diphtheria, and 6 of erysipelas. Among the 303 cases of infectious disease in hospital at the close of the week were 46 cases of measles, 28 of diphtheria, 60 of phthisis, 112 of scarlet fever, 29 of whooping-cough, 13 of erysipelas, 8 of chicken-pox, and 3 of enteric fever.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS

For four weeks ending Saturday, August 10, 1912.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended August 10, 1912, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 14.0 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,157,014. The deaths registered in each of the four weeks ended Saturday, August 10, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to the deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality:—

TOWNS, &c.	Week ending				Average Rate for 4 weeks	TOWNS, &c.	Week ending				Average Rate for week
	July 20	July 27	Aug. 3	Aug. 10			July 20	July 27	Aug. 3	Aug. 10	
22 Town Districts	14.5	15.2	16.4	14.0	15.0	Lisburn	8.6	12.9	12.9	34.3	17.2
Armagh	13.7	—	13.7	6.9	8.6	Londonderry	15.3	8.9	16.6	10.2	12.8
Ballymena	18.3	22.9	32.1	13.8	21.8	Lurgan	12.9	25.8	8.6	8.6	14.0
Belfast	14.5	15.6	13.2	12.3	13.9	Newry	13.1	34.9	26.2	13.1	21.8
Clonmel	10.1	10.1	25.4	25.4	17.7	Newtown- ards	5.7	22.9	11.4	17.2	14.3
Cork	10.2	13.6	19.7	12.2	13.9	Portadown	—	8.9	13.3	8.9	7.8
Drogheda	12.6	8.4	21.0	4.2	11.6	Queenstown	13.2	6.6	6.6	—	6.6
Dublin (Reg. Area)	15.4	14.5	18.1	15.8	15.9	Sligo	14.0	32.7	28.0	14.0	22.2
Dundalk	7.9	7.9	19.9	11.9	11.9	Tralee	21.1	21.1	10.6	10.6	15.8
Galway	19.7	23.6	27.5	23.6	23.6	Waterford	15.2	17.1	9.5	19.0	15.2
Kilkenny	14.9	24.8	5.0	14.9	14.9	Wexford	18.2	9.1	27.3	9.1	15.9
Limerick	19.0	16.3	19.0	16.3	17.6						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, August 10, 1912, were equal to an annual rate of 1.8 per 1,000—the rates varying from 0.0 in fifteen of the districts to 5.7 in Waterford, the 10 deaths from all causes for that district including 3 from diarrhoea and *enteritis* of children under 2 years of age. Among the 92 deaths from all causes registered in Belfast are 3 from each of whooping-cough and measles, and 4 from diarrhoea and *enteritis* of children under 2 years. The 3 deaths from all causes in Newry include one from whooping-cough, and one of the 2 deaths registered in Portadown is also from this disease.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 403,732, that of the City being 309,738, Rathmines 38,330, Pembroke 29,347, Blackrock 9,090, and Kingstown 17,227.

In the Dublin Registration Area the births registered during the week ended August 10 amounted to 193—95 boys and 98 girls—and the deaths to 130—71 males and 59 females.

DEATHS.

The registered deaths, omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 15.8 per 1,000 of the population. During the thirty-two weeks ending with Saturday, August 10, the death-rate averaged 22.0, and was 0.5 below the mean rate for the corresponding portions of the 10 years 1902–1911.

The total deaths registered, numbering 130, represent an annual rate of 16.7 per 1,000. The annual rate for the past thirty-two weeks was 23.3 per 1,000, and the average annual rate for the corresponding period of the past ten years was 23.6 per 1,000 of the mean population for all deaths registered.

The total deaths from all causes included one from enteric fever, 4 from measles, one death from scarlet fever, 2 from whooping-cough, one death from diphtheria, and 13 deaths from diarrhoea and *enteritis* of children under 2 years of age—the latter figure is 4 below the number registered in the preceding weekly period.

In each of the 3 preceding weeks, deaths from enteric fever were 0, one, and 0; deaths from measles were 8, 7, and 10; deaths from scarlet fever were 0, 0, and one; deaths from diphtheria were 3, 3, and 4; deaths from whooping-cough were 0, one and 0; and deaths from diarrhœa and *enteritis* of children were 7, 8, and 17.

There were 27 deaths from tuberculosis. This number includes 17 deaths from pulmonary tuberculosis, 3 deaths from abdominal tuberculosis, one death from tubercular meningitis, 3 deaths from tuberculosis of other organs, and 3 deaths from disseminated tuberculosis. In each of the three preceding weeks, deaths from tuberculosis numbered 28, 25, and 26.

Broncho-pneumonia caused one death, lobar pneumonia 3 deaths, and *pneumonia* (type not distinguished) caused 3 deaths. Organic diseases of the heart caused the deaths of 11 persons, and 5 deaths from bronchitis were recorded.

Cancer caused the deaths of 8 persons.

The death of one infant was ascribed to *convulsions*.

Prematurity caused the deaths of 2 infants, congenital malformation 2 deaths, and congenital debility 6 deaths.

The 3 deaths from accident or negligence include one death by vehicles and horses.

In 4 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 infants under one year old.

Fifty-two of the persons whose deaths were registered during the week ended August 10 were under 5 years of age, (33 being infants under one year, of whom 9 were under one month old), and 19 were aged 65 years and upwards, including 14 persons aged 70 and upwards. Among the latter were 6 aged 75 years and upwards.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett,

Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended August 10, 1912, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Diphtheria	Membranous Group	Pyrexia (origin uncertain) ^a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Cerebro-spinal Fever	Tuberculous phthisis (<i>Phtisis</i>).	Acute Poliomyelitis	Total
City of Dublin	July 20	•	•	13	-	10	-	-	4	6	-	*	*	*	2	*	35
	July 27	•	•	12	-	10	-	2	1	8	-	*	*	-	10	*	43
	Aug. 3	•	*	15	1	5	-	-	4	3	-	*	*	-	8	*	36
	Aug. 10	•	•	19	-	6	-	1	6	6	1	*	*	-	14	*	53
Rathmines and Rathgar Urban District	July 20	•	*	1	-	-	-	-	-	-	-	*	*	*	*	*	1
	July 27	•	*	-	-	-	-	-	-	-	-	*	*	*	*	*	-
	Aug. 3	•	*	-	-	-	-	-	-	-	-	*	*	*	*	*	-
	Aug. 10	•	*	-	-	1	-	-	-	1	-	*	•	•	*	*	2
Pembroke Urban District	July 20	12	-	2	-	-	-	-	-	-	-	-	13	*	-	*	27
	July 27	6	-	2	-	1	-	-	-	-	-	*	-	*	-	*	9
	Aug. 3	8	-	-	-	1	-	-	-	2	-	•	*	*	-	*	13
	Aug. 10	7	-	1	-	-	-	-	-	-	-	-	4	*	-	*	12
Blackrock Urban District	July 20	•	•	3	-	1	-	-	-	-	-	*	•	-	*	*	4
	July 27	•	•	-	-	-	-	-	-	-	-	*	*	-	*	*	-
	Aug. 3	•	•	2	-	-	-	-	-	-	-	*	*	-	*	*	2
	Aug. 10	•	•	3	-	-	-	-	-	-	-	*	*	-	*	*	3
Kingstown Urban District	July 20	*	*	-	-	-	-	-	-	-	-	*	•	*	2	*	2
	July 27	*	•	-	-	-	-	-	-	-	-	*	•	*	-	*	-
	Aug. 3	*	•	1	-	-	-	-	-	1	-	*	*	*	1	*	3
	Aug. 10	*	•	2	-	-	-	-	-	-	-	*	*	•	-	*	2
City of Belfast	July 20	•	*	11	-	7	-	-	-	5	1	•	*	-	6	-	30
	July 27	•	•	9	-	7	-	-	-	3	-	*	*	-	6	-	25
	Aug. 3	•	•	14	-	8	-	-	1	2	-	*	•	-	6	-	31
	Aug. 10	•	•	19	-	1	-	-	1	2	1	*	•	-	3	-	27

^a Continued Fever.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended August 10, 1912, 6 cases of measles were admitted to hospital, 15 were discharged, there were 3 deaths, and 41 cases remained under treatment at the close of the week. In the three preceding weeks such cases were 95, 70, and 53 respectively.

Twenty-four cases of scarlet fever were admitted to hospital, 20 were discharged, and 144 cases remained under treatment at the close of the week. This number is exclusive of 21 convalescent patients who remained under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital, Dublin. At the close of the 3 preceding weeks the cases in hospital were 147, 149, and 140 respectively.

One case of typhus remained under treatment in hospital at the end of the week.

Nine cases of diphtheria were admitted to hospital, there was one death, and 12 were discharged. The cases in hospital, which at the close of the 3 preceding weeks numbered 42, 39, and 47, respectively, were 43 at the close of the week.

Four cases of enteric fever were admitted to hospital, 6 were discharged, there was one death, and 19 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks being 21, 22, and 22.

In addition to the above-named diseases, 7 cases of pneumonia were admitted to hospital, 6 were discharged, there were 2 deaths, and 15 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, August 10, in 95 large English towns (including London, in which the rate was 11.2) was equal to an average annual death-rate of 11.5 per 1,000 persons living. The average rate for 18 principal towns of Scotland was 13.4 per 1,000, the rate for Glasgow being 15.1 and that for Edinburgh 13.6.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh with a copy of his Return of Infectious Diseases notified during the week ended August 10. From this Report it appears that of a total of 30 cases notified 16 were of phthisis, 11 of scarlet fever, 2 of diphtheria, and one of erysipelas. Among the 230 cases of infectious disease in hospital at the close of the week were 15 cases of measles, 21 of diphtheria, 62 of phthisis, 95 of scarlet fever, 21 of whooping-cough, 9 of erysipelas, 3 of chicken-pox, and one of enteric fever.

METEOROLOGY.

Abstract of Observations Made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of July, 1912.

Mean Height of Barometer, - - -	29.942 inches.
Maximal Height of Barometer (4th, at 9 p.m.),	30.315 „
Minimal Height of Barometer (29th, at 4 p.m.),	29.283 „
Mean Dry-bulb Temperature, - - -	57.9°
Mean Wet-bulb Temperature, - - -	55.1°
Mean Dew-point Temperature, - - -	52.6°
Mean Elastic Force (Tension) of Aqueous Vapour,	.402 inch.
Mean Humidity, - - -	83.5 per cent.
Highest Temperature in Shade (on 15th),	73.1°.
Lowest Temperature in Shade (on 19th),	46.9°.
Lowest Temperature on Grass (Radiation) (19th)	45.7°.
Mean Amount of Cloud, - - -	65.4 per cent.
Rainfall (on 17 days), - - -	3.055 inches.
Greatest Daily Rainfall (on 31st),	.564 inch.
General Directions of Wind, - - -	N.E., N.W.

Remarks.

July, 1912, proved a disappointing month. Heavy showers fell on Monday, the 1st, but a change to fine, dry and seasonable weather was quickly brought about by the extension over the British Isles of a vast anticyclone which rested upon the Atlantic, with its central area near the Azores. Cool, northerly winds prevailed during this anticyclonic period. In the second week a spell of unsettled, dull and rainy weather was experienced in Ireland, with dominant winds between S. and W. In the South of England much finer and more summer-like conditions asserted themselves, and on Friday, the 12th, the thermometer rose to 91° in London and to 90° at Greenwich, whereas in Dublin the maximum temperature on that day was no higher than 60.4°. On the 13th a second anticyclonic period set in, and was followed by a rainless week in the Dublin district for the first time since July, 1911. Besides being fine and dry, the third week of the month was also seasonably warm, notwithstanding a constant prevalence of winds from polar quarters. In London and its neighbourhood torrid heat prevailed until Thursday, the 18th, when a sudden change to winter from summer occurred. From Sunday, the 21st, cloudy, rainy, thundery weather held to the close of the month, belying the fair promise of its earlier days. This broken

weather was connected with the constant presence of areas of low pressure on the Atlantic to the southward or westward of Ireland. The deepest of these cyclonic systems moved northwards to the Hebrides, and on the early morning of the 29th the barometer fell slightly below 29 inches at Stornoway. On the 31st another depression arrived over Ireland from the Atlantic, the day proving in Dublin the coldest, dullest, wettest day experienced in July for many years.

In Dublin the arithmetical mean temperature (58.9°) was 1.6° under the average of the 35 years 1871–1905 (60.5°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 57.9° . In the forty-eight years ending with 1912, July was coldest in 1879 (“the cold year”) (M. T. = 57.2°). It was warmest in 1905 (M. T. = 63.8°); and in 1887 (M. T. = 63.7°). In 1910 the M. T. was 58.5° ; in 1911 it was 63.5° .

The mean height of the barometer was 29.942 inches, or 0.027 inch above the corrected average value for July—namely, 29.915 inches. The mercury rose to 30.315 inches at 9 p.m. of the 4th, and fell to 29.283 inches at 4 p.m. of the 29th. The observed range of atmospheric pressure was, therefore, 1.032 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 57.9° , or 1.7° above the value for June, 1912. Using the formula *Mean Temp.* = *Min.* + (*Max.*—*Min.*) $\times .465$, the value was 58.4° or 1.7° below the average mean temperature for July, calculated in the same way, in the thirty-five years, 1871–1905, inclusive (60.1°). The arithmetical mean of the maximal and minimal readings was 58.9° , compared with a thirty-five years’ average of 60.5° . On the 15th the thermometer in the screen rose to 73.1° —wind, N.N.E.; on the 19th the screened thermometer fell to 46.9° —wind, N.W. The minimum on the grass was 45.7° , also on the 19th.

The rainfall was 3.055 inches, distributed over 17 days. The average rainfall for July in the thirty-five years 1871–1905, inclusive, was 2.680 inches, and the average number of rain-days was 17. The rainfall, therefore, was above, whereas the rain-days were equal to, the average. The maximal fall in 24 hours was .564 inch on the 1st. On the 23rd .514 inch was measured. In 1880 the rainfall in July was very large—6.087 inches on 24 days; in 1896, also, 5.474 inches fell on 18

days. On the other hand, in 1870, only .539 inch was measured on 8 days ; in 1869 the fall was only .739 inch on 9 days : and in 1868 .741 inch fell on but five days. In 1911, 2.994 inches fell on 14 days.

High winds were noted on 7 days, but never attained the force of a gale (8). Temperature reached or exceeded 70° in the screen on only 4 days, compared with 21 days in 1911, 4 days in 1910, 3 days in 1909, 9 days in 1908 and 1907, 10 in 1906, 17 in 1905. and 10 in 1904. The thermometer failed to reach 60° on the 31st, when the maximum was 56.3° . In 1888 the maximum for July was only 68.7° .

Lightning was seen on the 18th. A thunderstorm occurred on the night of the 23rd, and thunder was heard on the afternoon of the 24th.

The rainfall in Dublin during the seven months ending July 31st amounted to 16.811 inches on 127 days, compared with 10.723 inches on 94 days in 1911, 21.032 inches on 127 days in 1910, 15.377 inches on 106 days in 1909, 13.809 inches on 120 days in 1908, 14.358 inches on 127 days in 1907, 13.664 inches on 122 days in 1906, 11.022 inches on 109 days in 1905, 13.905 inches on 117 days in 1904, 19.072 inches on 131 days in 1903, 15.507 inches on 115 days in 1902, 11.432 inches on 93 days in 1901, only 7.935 inches on 80 days in 1887, and a thirty-five years' (1871-1905) average of 14.710 inches on 113 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, reports that the mean height of the barometer was 29.970 inches, the range of atmospheric pressure being from 30.33 inches at 9 p.m. of the 4th to 29.29 inches at 9 p.m. of the 29th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 58.5° . The arithmetical mean of the daily maximal and minimal temperatures was 58.3° , the mean maximum being 64.8° , and the mean minimum 51.7° . The screened thermometers rose to 74° on the 15th, and fell to 45° on the 19th. On the 11th the grass minimum was 41° on the 9th and also on the 19th. Rain fell on 15 days to the amount of 2.54 inches, the greatest fall in 24 hours being .52 inch on the 31st. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 153.0 hours, of which 12.1 hours occurred on the 14th. The mean daily duration was 4.9 hours. In

July, 1904, there were 201 hours of bright sunshine ; in 1905, 162.2 hours ; in 1906, 184.8 hours ; in 1907, 178.1 hours ; in 1908, 174.3 hours ; in 1909, 139.8 hours ; in 1910, 205.0 hours, and in 1911, 221.8 hours. The mean sub-soil temperatures at 9 a.m. were—at 1 ft., 60.3° ; at 4 ft., 56.9° .

Captain Edward Taylor, D.L., recorded a rainfall of 3.27 inches on 16 days at Ardgillan, Balbriggan, Co. Dublin. This measurement was .59 inch above the average, and the rain-days were 1 in excess. The largest rainfall in 24 hours was .64 inch on the 11th. Since January 1, 1912, 18.44 inches of rain have fallen at Ardgillan on 118 days, the precipitation being 3.36 inches over the average and the rain-days 11 in excess. The shade temperature in July ranged from 70.7° on the 15th to 44.3° on the 19th.

Mr. T. Bateman reports that the rainfall at the Green, Malahide, Co. Dublin, was 3.30 inches on 15 days. The largest daily fall was .525 inch on the 11th. The mean shade temperature was 56.9° , the extremes being—highest, 70.5° on the 7th ; lowest, 42.5° on the 18th.

Dr. Christopher Joynt, F.R.C.P.I., recorded a rainfall of 3.120 inches on 16 days at 21 Leeson Park, Dublin. The greatest fall in 24 hours was .570 inch, which occurred on the 31st. On the 23rd also .550 inch fell.

At the Ordnance Survey Office, Phoenix Park, rain fell on 16 days to the amount of 3.275 inches, the greatest rainfall in the 24 hours being .730 inch on the 23rd. The total duration of bright sunshine was 130.0 hours, the greatest daily sunshine being 13.3 hours on the 15th. The thermometer rose to 74.0° in the screen on the 20th, having fallen to 41.8° on the 9th.

Miss C. Violet Kirkpatrick reports a rainfall of 3.87 inches on 18 days at Cheeverstown Convalescent Home, Clondalkin, Co. Dublin. The heaviest fall in 24 hours was .57 inch on the 31st.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, the rainfall was 3.85 inches on 17 days. The maximal fall in 24 hours was .80 inch, measured on the 23rd. The mean temperature was 61.0° , the range being from 75° on the 14th to 49° on the 19th. There was a thunderstorm on the 23rd.

The rainfall recorded by Mr. George B. Edmondson at Manor Mill Lodge, Dundrum, was 3.86 inches on 17 days. Of this

quantity, .83 inch fell on the 23rd. The mean temperature was 59.4° , the thermometer rising to 76° on the 15th, and falling to 47° on the 19th.

At Druid Lodge, Killiney, Co. Dublin, Mrs. Olive F. Symes registered a rainfall of 4.05 inches on 16 days. The heaviest fall in 24 hours was .93 inch in the thunderstorm of the 23rd.

Dr. A. J. Blake, Resident Medical Superintendent of the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Brittas, Co. Dublin, recorded a rainfall of 3.31 inches on 17 days. The heaviest fall in 24 hours occurred on the 31st and measured .67 inch in the gauge.

Dr. John H. M. Armstrong, M.B., reports that the rainfall at Coolagad, Greystones, Co. Wicklow, was 3.93 inches on 16 days, the maximal daily fall being .96 inch on the 31st. Since January 1, 1912, the rainfall at that station equals 29.04 inches on 129 days. Thunderstorms occurred at 10.30 p.m. of the 23rd and 3.30 p.m. of the 24th.

Dr. W. S. Ross returns the rainfall at Clonsilla, Greystones, as 3.91 inches on 18 days, the maximal measurement in 24 hours being .95 inch on the 31st. The thermometer in the screen ranged from 40° on the 9th to 70° on the 9th, 16th, and 21st. The mean maximum was 66.6° , the mean minimum 52.4° , and the mean temperature 59.5° .

At the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, Dr. Charles D. Hanan, M.B., Resident Medical Superintendent, reports a rainfall of 4.06 inches on 16 days, the greatest daily rainfall being 1.04 inches on the 31st. The screened thermometer rose to 71° on the 15th, and fell to 46° on the 19th. The mean maximum temperature was 63.4° , the mean minimum was 51.9° and the mean temperature 57.6° .

At the Rectory, Dunmanway, Co. Cork, the Rev. Arthur Wilson, M.A., recorded a rainfall of 5.03 inches on 15 days. The rainfall was 1.92 inches more than the average for July in the past seven years. The heaviest falls in 24 hours were—1.96 inches on the 22nd, and .60 inch on the 30th. There was no rain on the first 6 days, nor from the 12th to the 18th. Only .78 inch fell up to the 20th. The weather was especially warm from the 14th to the 18th. The last few days were very cool. The rainfall at Dunmanway for the 7 completed months of 1912 amounts to 37.18 inches, compared with an average of 27.44 inches.

PERISCOPE.

MICROCoccus CATARRHALIS AS A CAUSE OF INFLAMMATION IN THE GENITO-URINARY TRACT.

WINFIELD AYRES asserts (*American Journal of Surgery*, March, 1912) that *Micrococcus catarrhalis* is capable of setting up an inflammation of the genito-urinary mucous membrane closely resembling gonorrhœa, but differing in being less severe, with less eversion of the lips of the meatus, and occurring often in cases where there has been no intercourse. The two organisms look similar in a smear, both being diplococci, intracellular, and Gram-negative; but the *M. catarrhalis* will grow on nutrient agar at room temperature, while the gonococcus and meningococcus will not, and this cultural difference is the only sure method of differentiation. In treatment the newer silver salts will greatly aggravate a *M. catarrhalis* urethritis. In one of Ayres' cases with mild symptoms a ten per cent. argyrol injection anteriorly caused the development of epididymitis, prostatitis, vesiculitis, and pyelitis. Urotropin, fifteen grains every three hours, was the only drug that had any effect, and this alone rapidly cleared up the case. If a urethritis gets worse under usual treatment, suspect *M. catarrhalis* infection and avoid local treatment, relying on large doses of santal oil or urotropin internally. If a discharge persists after a week, use silver nitrate locally, very dilute.—*New York Medical Journal*, April 13, 1912.

TREATMENT OF VARICOSE ULCERS, SPECIFIC AND NON-SPECIFIC.

IN October, 1911, Dr. Metam, Bucharest, published an interesting paper on the treatment of syphilitic chancre by hectine, the benzo-sulpho-para-amino-phenylarsinate of sodium, in which he confirmed the favourable reports of the remedy of MM. Hallopeau and Balzara. In these cases the chemical was given either by the mouth or hypodermically. We should also mention that Hallopeau also used it as a prophylactic (*Soc. de Méd. de Paris*, 11 Jan., 1910) with success. Drs. Lévy-Bing and L. Doreau (de Saint-Lazare) have recently been using the powdered hectine and an ointment of the drug as a topical application

to varicose ulcers, syphilitic and non-syphilitic. The ointment consists of one part of hectine to nine parts of lard or petroleum. Their successes are reported in an illustrated article in the *Gazette des Hôpitaux*, May 7, 1912, and are such as no other remedy has as yet given.

IODINE FUMIGATIONS IN GYNÆCOLOGICAL CASES.

IN an article entitled "L'enfumage iodé en gynécologie (*Le Progrès Médical*, December 30, 1911) Professor Reynès, Marseilles, states that the method of iodine fumigations has been tried with great success by him. He gives the *modus operandi* and the indications of this new and original method in his paper. This method gives excellent results in all uterine affections which may be treated per vaginam, like ulcerative metritis of the cervix, cervicitis, or granular metritis. It is also useful for the disinfection of uterine cancer, after scraping the superficial layers of the tumour. Iodine vapours may also be introduced directly into the uterus, and Professor Reynès is experimenting with this treatment successfully in cases of *post-abortum* metritis. The *modus operandi* is very simple:—After careful swabbing of the vagina and cervix, Professor Reynès introduces into the vagina a small pledget of cotton wool dipped in iodoform, and which has been passed through the flame of a spirit lamp, candle, or match. The combustion of the cotton wool is instantaneous, and the heat of this combustion is sufficient to set iodine free, so that vapours fill the vagina which has been previously dilated with a speculum. A deposit of iodine soon takes place in the vagina and on the cervix. Another method consists in heating the tube of an insufflator and projecting iodoform, so as to bring free iodine into contact with the diseased part. Neither of these methods requires any special apparatus, and may be applied as well in hospital practice as in country practice.

INSPIRATORY COMPRESSION OF THE CHEST.

PROFESSOR MOURIQUAND, of Lyons, communicates to *Le Progrès Médical* for January 20, 1912, a very instructive paper on a useful method of palpation of the chest by pressure over the upper part of the thorax during deep inspiration. This original method, which Professor Mouriquand has carefully controlled with the X-rays, enables the physician to

palpate the spleen, the liver, and even the kidneys with much more accuracy than the ordinary clinical methods of palpation. In women the downward movement of these organs, during deep inspiration and compression of the thorax, is much more marked than in men, but both in men and women Professor Mouriquand's method gives useful data which cannot be obtained by the classical methods of palpation.

[The Editors are indebted to A. E. E. Reboul (de Châtel-Guyon), M.D., L.R.C.P. & S., Edin., &c., Fellow of the Royal Society of Medicine, for these abstracts of papers which have recently appeared in our French contemporary, *Le Progrès Médical*, Paris.]

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

"Vaporole" Pituitary Extract 0.5 c.c.

FROM the clinical point of view, one of the most notable results of investigations on the internal secretions of the ductless glands has been the preparation and introduction into therapeutics of an extract of the infundibular portion of the pituitary body. Such an extract, when injected intravenously or intramuscularly, raises the blood pressure and keeps it raised, acts as a stimulant of plain muscle, particularly of the uterus, slows and strengthens the heart-beat, and causes profuse diuresis. All these actions have been taken advantage of clinically, and the extract has been successfully used in shock, in *post-partum* hæmorrhage, and after labour generally, in cases of intestinal paresis and atony following operations, in typhoid and other fevers, and as a diuretic. In a large number of the successful cases recorded in the literature, the preparation used has been "Vaporole" Pituitary (Infundibular) Extract, a sterilised preparation issued by Messrs. Burroughs, Wellcome & Co., London, E.C. This has hitherto been available only in quantities of 1 c.c., but, as a result of its more extended use, and to provide further convenience in dosage, it has now been issued also in containers of 0.5 c.c. "Vaporole" Pituitary (Infundibular) Extract, 0.5 c.c., is packed in boxes of six hermetically-sealed containers, and, being sterile, is ready for immediate injection.

THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

OCTOBER 1, 1912.

PART I. ORIGINAL COMMUNICATIONS.

ART. X.—*Diabetes*.^a By JOCELYN SMYLY, M.A., M.D.
Univ. Dubl. ; Late House Surgeon, Adelaide Hospital,
Dublin.

I DO not propose to enter into the history of the study of diabetes ; suffice it to say that it was recognised by Aretaeus as long ago as 150 A.D.

A. PHYSIOLOGY OF DIABETES.

I. Physiology of Metabolism of Carbohydrates.

Before entering upon its discussion, a few words on the metabolism of the carbohydrates may not be out of place.

A carbohydrate, as the name suggests, is a compound of carbon united with the elements of water. The simplest of them is formaldehyde CH_2O .

Those of interest in the present connection are those whose molecule contains six C atoms or a multiple of that number. These are of three classes :—

1. Monosaccharides : formula $\text{C}_6\text{H}_{12}\text{O}_6$, such as dextrose and lævulose.

^a A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, June, 1912.

2. Disaccharides : formula $C_{12}H_{22}O_{11}$, such as cane sugar, lactose and maltose.
3. Polysaccharides : formula $C_6H_{10}O_5$, such as starch, glycogen, cellulose.

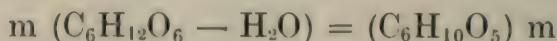
These compounds undergo a series of changes during digestion. Under the action of ferments in the saliva, the pancreatic juice, and the succus entericus the more complex compounds are broken up into monosaccharides, chiefly dextrose.

Thus, *e.g.*, cane sugar is hydrolysed into dextrose and lævulose



These sugars are absorbed into the system through the intestinal mucous membrane, but exactly what happens to them at this stage is still a matter of debate. Two rival theories are held. Claude Bernard held, as a result of his experiments, that dextrose passed as such into the portal veins and was conveyed to the liver, and in this opinion the majority of physiologists concur. Pavy, on the other hand, believed that the concentration of glucose in the portal blood was no greater than in the rest of the system, and that the sugar was decomposed in the intestine and converted into fat and protein, and passed into the system as such, through both lymphatic and portal vessels. Any excess of sugar above this he believes passes to the liver and is transformed into glycogen.

All are agreed that the liver acts as a "warehouse" for carbohydrate, and that in whatever form it arrives there the liver cells convert it into the starch-like substance glycogen



The liver, however, is not the only store-house in the body for glycogen, the muscles also contain it, the total amount of the two deposits being about equal. It is from this glycogen that the energy of the body is derived, it is the fuel which supplies the heat and the power to work ; hence its indispensable nature to the organism.

The blood contains carbohydrate in the form of dextrose

in a concentration of about 0.2 per cent. If it rises above this it is excreted by the kidneys and appears in the urine. It is practically certain that the glycogen in the muscles is derived from this supply of glucose. The manner in which the muscles make use of the glycogen, how it undergoes combustion and supplies them with energy, has been elucidated by experiments of Cohnheim's published in 1903-4, and confirmed by Rahel-Hirsch. He observed that if muscle juice is left to act upon glucose nothing happens, so also with pancreatic extract, but the mixed juices cause its decomposition into alcohol and carbon dioxide. Thus



The importance of this bearing on diabetes will appear presently.

II. *Experimental Diabetes.*

Much of our present knowledge of diabetes is based on experiment on living animals. Let us now consider some of this work.

Glycosuria can be produced in animals in three ways ; we may call the three forms *puncture diabetes*, *phloridzin diabetes*, and *pancreatic diabetes*.

1. *Puncture Diabetes*.—Claude Bernard produced diabetes in dogs and rabbits by his classical piqure experiment, driving a needle through the back of the skull into the floor of the fourth ventricle. The diabetes in this case is the result of irritation of the diabetic centre (L. Hill, p. 341). If the rabbit is previously starved, and the liver consequently free from glycogen, no glycosuria results.

The stimulation of various afferent nerves has been found to produce a like result, and the nerve-path by which the impulses go to the liver has been traced.

2. *Phloridzin Diabetes*.—The administration of phloridzin, or its derivative phloretin, causes a glycosuria, but no hyperglycæmia. Its action is either to cause the kidney to act as a secreting gland for glucose, or else to

so damage its epithelium as to allow glucose to leak through it.

3. *Pancreatic Diabetes*.—Finally, the most interesting form of all, diabetes can be produced by total extirpation of the pancreas.

This epoch-making discovery was made by von Mehring and Minkowski in 1889.

If the pancreas is completely removed from dogs glucose appears in the urine, and an excess of it in the blood—*i.e.*, hyperglycæmia. The animal wastes and dies with symptoms of diabetes like those in the human subject. Similar results were obtained with many other vertebrates, including eels. That this result is not due to loss of the pancreatic secretion poured into the duodenum is shown by the fact that diabetes does not follow the formation of a pancreatic fistula; and secondly, that if a portion of the head of the gland with its blood supply intact is kept and grafted into the anterior abdominal wall diabetes does not ensue. Consequently we are driven to the conclusion that the pancreas supplies an internal secretion which is necessary to the metabolism of carbohydrates, enabling the tissues to utilise them.

As I have already mentioned, the more recent discovery of Otto Cohnheim that mixed pancreatic and muscle juice causes conversion of dextrose to alcohol and CO_2 , indicates the rôle of this internal secretion.

This pancreatic substance is not an enzyme, because it withstands boiling and is soluble in alcohol, but not in ether. It is in fact a substance like adrenalin and iodothyryl, the active substances secreted by the suprarenals and thyroid gland respectively.

Cohnheim compares its action to an activating substance in the duodenum discovered by Pavlov. Pavlov found that pancreatic secretion did not digest proteins till it was rendered active by a duodenal secretion. Trypsinogen from the pancreas in combination with enterokinase from the duodenum forms the digestive substance for proteins which we call trypsin. Similarly the internal secretion of the

pancreas in combination with the activating agent in the muscles forms the glycolytic substance for sugars in the muscle.

To explain how this comes about he makes use of Ehrlich's side-chain theory. The pancreas, he believes, supplies amboceptors and the muscle juice complement. This theory not only accounts for the facts, but is supported by the observation that an excess of pancreatic secretion inhibits the glycolytic action, which is a feature in the action of amboceptors observed by Neisser and Wechsberg in bacteriolysis.

Rahel-Hirsch made the additional discovery that liver extract mixed with pancreatic extract caused a similar rapid decomposition of glucose.

III. Source of Sugar.

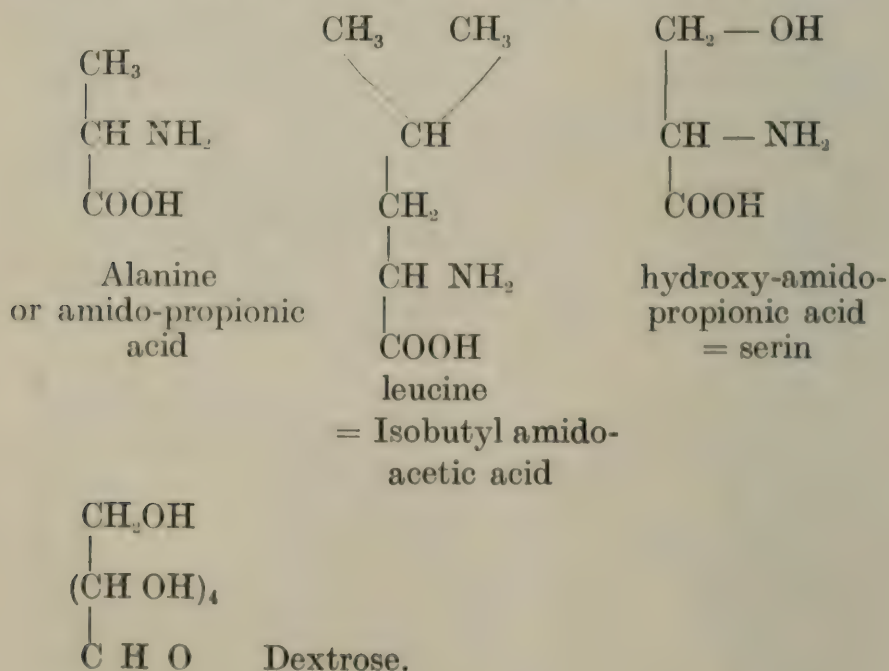
Let us now inquire what is the source from which the sugar is derived which appears first as an excess in the blood and then as an excretion in the urine.

At first it is undoubtedly derived from the stored up glycogen in the animal's system, for if the dog is killed a few days after removal of the pancreas hardly any glycogen can be obtained from the liver; and this occurs even if the dog is fed with either protein or carbohydrate. An interesting exception to this is lævulose, which does induce glycogen formation, a point which I venture to suggest might be of value clinically in feeding diabetics. The possible sources once the glycogen is used up are fat and protein, and we can get an indirect clue as to which of these it is in the following way:—

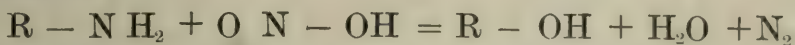
If the total excretion of sugar by a depancreatized dog is estimated, and also the total nitrogen excretion, it is found that after a few days they come to bear a constant ratio to one another, $D : N = \text{about } 3$, as an average ratio of a large number of observations. Practically the same ratio is obtained whether the dog be starved or fed on purely protein diet, whereas if carbohydrates are included

in the diet the sugar excretion is increased, while the N remains the same or less and $\frac{D}{N}$ becomes 7 or more. From which we must derive the conclusion that after the stored up glycogen is gone, the source of the glucose is protein.

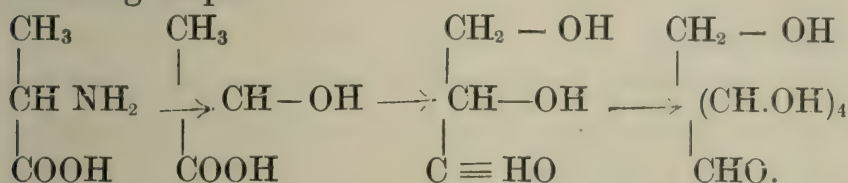
A great deal of chemical investigation has been made to determine the possibility of deriving sugars from protein material. Pavy and others have obtained glucosamine from mucin, egg-albumen, serum globulin and other substances by boiling them with acids, which is taken to prove that these proteins contain a carbohydrate group in their molecule which is split off by hydrolysis. This, however, accounts for only about 2 per cent. or less of the protein, and is insufficient to account for the large excretion of sugar. This leads one to ask, can sugar be formed in the body from decomposition products of proteins? The answer to this question is that probably it can. Among the most important of these decomposition products are amido-acids, some of which have structural formulæ closely related to the sugars. Compare, for instance—



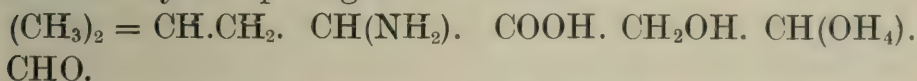
The NH_2 group is readily replaceable by OH by treating with HNO_2



Thus alanine can be made to afford glucose by the following steps—



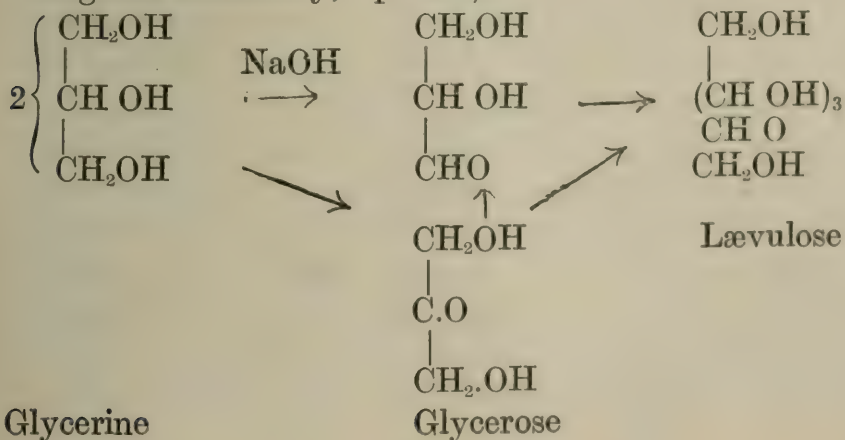
Leucine is related in constitution to dextrose, as will be seen by comparing their formulæ—



Evidence of the conversion of leucine to glucose in metabolism has been obtained by Mohr in the case of a man with severe diabetes. On a constant diet his daily sugar excretion was 49–63 grammes. On adding 20 grammes leucine to the diet it rose to 72–75 grammes, sinking again to 55–59 grammes after leucine feeding was stopped (L. Hill, p. 382). All this goes to show that the body can derive carbohydrates from protein; both its own body protein and also from protein diet.

Let us now consider whether fat may not also be a source of sugar.

Glycerine has been found by Emil Fischer to afford glycerose on mild oxidation, two molecules of which will undergo condensation to form lævulose (Richter's "Organic Chemistry," p. 553).



Some experiments have been made which tend to show that such a process may actually occur in the living body.

The fatty acid portion of the neutral fat probably cannot be converted into sugar, and this may possibly be a reason why fatty acids, such as β -hydroxy-butyric occur in diabetic urine.

Thus our general conclusion is that carbohydrates can certainly be derived from proteins, and possibly from the glycerine radical of fats.

B. DIABETES IN THE HUMAN SUBJECT.

We may now pass to consider diabetes as it is observed in the human subject.

I have mentioned three forms of experimental diabetes—puncture, phloridzin and pancreatic; and clinically three forms of diabetes have been described more or less corresponding to these.

Certain cerebral and spinal lesions cause glycosuria, though some of these have been found not to have involved the diabetic centre.

Again, what is known as renal diabetes has been described by good authorities in cases of kidney disease in which there was no hyperglycæmia. Fitcher, who writes on the subject in Osler and M'Crae's "System of Medicine," says there is considerable doubt as to its occurrence (Vol. I., p. 758). If it occurs it is the analogue of phloridzin diabetes.

Lastly, that diabetes mellitus corresponds to pancreatic diabetes may now be considered to be beyond a doubt. In Osler's words—"The present status may be thus summarized—(a) Extirpation of the gland in dogs (and occasionally in man—W. T. Bull) is followed by glycosuria. If a small portion remains sugar does not appear. (b) In a considerable percentage of cases of diabetes lesions of the pancreas are found; 50 per cent. show a chronic interstitial inflammation (Hansemann, Williamson. (c) In view of the experimental work it is reasonable to infer that diabetes is secondary to the pancreatic lesion,

I. Pathology of Diabetes Mellitus.

1. *Hyperglycæmia*.—The essential feature of diabetes is an excess of sugar in the blood plasma. Glucose is normally present in amount of 0.05 to 0.2 per cent., any excess over this latter amount causes excretion by the kidneys. In diabetes mellitus it may reach as high as 0.6 per cent. (Pavy, Seegen, quoted by Osler and M'Crae, p. 765) and even 0.7 per cent. (Naunyn).

Adami makes some important generalisations on conditions such as this depending on internal secretions. "The elaboration and discharge of internal secretions has its limits. It is, therefore, possible to have an intake or production of the substance acted on by those internal secretions, over and above the capacity of the internal secretions to convert or neutralise them. . . . An alimentary glycosuria is thus to be expected in case of excessive intake of carbohydrates."

Morbid states such as this "are not the outcome of one, but of the interaction of at least two, factors; they represent a want of balance between amount of internal secretion and amount of substance on which it acts. . . . The same symptoms may be brought about (*a*) by diminution of the internal secretion in the presence of normal production of the substratum or substance upon which it acts; and (*b*) by no diminution in the amount of internal secretion elaborated and discharged, but by excess of the substratum upon which it acts."

In the case of glycolysis "the same syndrome . . . may be set up (*a*) by excessive development or intake of the substratum; (*b*) by lesion of the organ or organs in which that substratum undergoes disintegration, preventing that disintegration; and (*c*) by lesion in the organ affording the hormone, without which the disintegration cannot be effected." (Vol. I., p. 386).

That is to say, diabetes may be caused by an excessive intake or production of carbohydrate, and this we know to be the case; glycosuria follows an excessive consump-

tion of sugar, or it may be caused by disease at the seat of combustion in the muscles, or by failure of the pancreas to supply the substance without which that combustion will not occur. And diabetes may vary in severity in proportion to the amount of deficiency of this substance.

2. *Pathological Anatomy*.—The discovery of experimental pancreatic diabetes turned the attention of pathologists to that gland in the case of diabetics.

It has been found more frequently diseased than any other organ. Occasionally gross lesions, such as a calculus or cancer or chronic interstitial pancreatitis, are found. More frequently the lesion is microscopic. Opie's studies, published in 1900 and confirmed in 1901 by Ssobolew demonstrate a hyaline degeneration of islands of Langerhans in three cases with no naked eye appearance of abnormality. Opie also describes two forms of chronic interstitial pancreatitis, interlobular and interacinar. Out of eleven cases of the interlobular variety one was diabetic, and out of three cases of interacinar two were diabetic (Osler and M'Crae, p. 755). These findings have, however, been stoutly opposed in certain quarters. According to Adami the islands of Langerhans have been shown by Dale, Swale Vincent and Mrs. Thompson not to be independent structures, but to be convertible into active acini and *vice versa*; he admits, however, that this does not disprove the contention that they are the source of the pancreatic glycolytic substance, while Opie's results would indicate that they undoubtedly are.

3. *Abnormalities of Metabolism*.—Abnormalities in metabolism closely resemble those observed in experimental pancreatic diabetes of animals.

(1) In the *first* place there is *hyperglycæmia*. The amount of glucose in the blood is increased from the normal maximum of 0.2 per cent. to 0.6 per cent. or even 0.7 per cent. (Osler and M'Crae, p. 765). This increase may be due to an over-production of glucose from a given quantity of food, or of deficient consumption; and the evidence available seems to point strongly to the

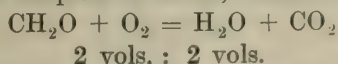
latter. First, if there is an over-production of glucose it must be at the expense of body glycogen which would become exhausted, whereas there is almost invariably some glycogen in the liver of diabetics. Secondly, we can get evidence from what is known as the respiratory quotient.^a In persons suffering from diabetes respiratory quotient is about 0.7 when dextrose is given in the food (Magnus Levy, quoted by L. Hill, p. 368), showing that the subject is consuming fats or proteins, not carbohydrate. Thirdly, we can get evidence by giving a patient a certain quantity of dextrose on an otherwise constant diet. It is generally found that most of the dextrose can be recovered from the urine. Van Noorden records a case in which it was all recovered.

We thus have several pieces of direct evidence that diabetes mellitus is a deficient power to utilise carbohydrates.

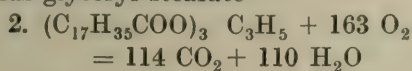
(2) Secondly, although the liver is never entirely deprived of glycogen, its power of storing it is greatly depressed. The reason for this has not yet been conclusively proved. One explanation is that "the glycogen stored in the liver and elsewhere is called upon, and in this way becomes uselessly used up in the attempt of the

^a The energy for the body is derived from the oxidation of its food material, the resultant products being excreted mainly in the forms CO_2 , H_2O and urea. If the intake and output of O_2 and CO_2 are measured we can find certain definite relations between their relative quantities.

When carbohydrates are burnt the CO_2 evolved is equal in volume to the O absorbed. Thus the simplest of them, formaldehyde—



They contain sufficient O for combustion of the H. Fats contain less O, thus glyceryl stearate—



$$\frac{\text{CO}_2}{\text{O}_2} + \frac{114}{163} = 0.7.$$

The ratio of the volume of CO_2 to the volume of O, written $\frac{\text{CO}_2}{\text{O}_2}$ is called the *respiratory quotient*, and for carbohydrates it is $\frac{2}{2}$ or 1; for fats 0.7; and

similarly for proteins $\frac{\text{CO}_2}{\text{O}_2} = 0.8$.

tissues to try to oxidise sufficient dextrose by working on an excess of it " (L. Hill, p. 357). M'Cleod mentions this reason only to condemn it, and advances another of his own (also mentioned in Osler and M'Crae's "System," p. 765) that glycogen is formed in the liver by a ferment which is a combination of an inactive substance in the liver activated by a pancreatic substance, deficient in diabetes. I venture to offer an explanation which seems reasonable, though I have not seen it in print, that the glycogen is drained from the liver as fast as it is formed owing to the fact that the tissues of the body are crying out for carbohydrate. It is proved that the liver discharges glycogen into the circulation as a result of a reflex nerve impulse, and the path of the impulse has actually been traced. And the fact that glycogen is found in the diabetic liver would indicate that its glycogen-forming power was not lost.

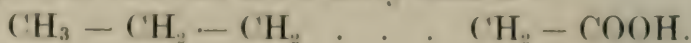
(3) Thirdly, there is an increased output of nitrogen ; partly physiological owing to larger consumption of protein food by the patient, and partly pathological from combustion of the body proteins to supply the energy necessary to life.

It is worth observing that this waste of nitrogenous matter is greater in proportion to the glycosuria.

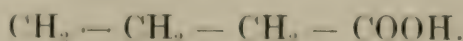
(4) Fourthly, there is a disturbance of fat metabolism. The power of the tissues to oxidise fat is depressed as a series of substances appear in the urine, acetone, acetoacetic acid, and β -hydroxy-butyric acid which during recent years have been proved to be derived from fats (Osler and M'Crae, 766 ; L. Hill, p. 373).

The chemistry of this change is easily understood by comparing their structural formulæ.

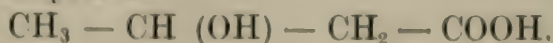
The general formula for a fatty acid is—



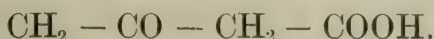
Butyric acid is—



β -hydroxy-butyric is—



Aceto-acetic acid (or di-acetic (bad name)) is



Acetone is—



A large ingestion of butter is followed by increased excretion of these bodies showing their origin from butyric acid, as at all events one source.

At present it is uncertain if fat alone is their source.

II. *Diagnosis.*

There is no disease more readily diagnosticated than diabetes, and it will be necessary to devote only brief attention to some of its chief symptoms, although a full discussion of all the symptoms of the disease and its complications might easily fill a book. Allow me then to merely enumerate the most striking ones and to devote particular attention to only one or two.

1. *Classification.*—No satisfactory classification of diabetes has been made. Some cases are severe and acute, others are mild and chronic. A pathological classification is made, on the lines I have taken above, into nervous, pancreatic, diabetic and possibly renal.

2. *Symptoms.*—The most important symptoms are as follows :—

(1) Polyuria—varies from 3–4 litres up to 15–20 litres. Urine pale in colour, from dilution of colour matter.

(2) Dryness.—Under this head fall a number of symptoms :—

1°. Thirst.

2°. Skin dry and harsh ; sweating rare.

3°. Mouth dry ; tongue dry, glazed and red ; saliva scanty.

4°. Constipation.

(3) Glycosuria.—This leads to high specific gravity : 1025–1045.

- (4) Wasting and hunger, from inability of tissues to utilise carbohydrate, and consequent drain on proteins and fats.

The temperature is subnormal, the pulse frequent and high. There are nervous symptoms of moroseness, and often sexual impotence.

In the final stages the urine is albuminous and contains abundance of hyalin and granular casts.

Testing for sugar is an important step in the diagnosis. It can be done by the reduction of Fehling's or Nylander's solutions, or by fermentation by means of yeast. The last is the most certain qualitative test ; the first the best method for ordinary quantitative estimations.

3. *Complications.*—Time will not permit of one's dealing with a variety of complications which occur in the disease. Suffice it to mention two of the most important :—

(1) Diabetic Gangrene.—Tissues of diabetics have their resistance lowered, and form a suitable nidus for bacteria, and hence operations on them should not be performed until they are rendered aglycosuric by treatment.

(2) Coma.—This is of three types.

By far the most common is that first described by Kussmaul in 1874, called the air hunger type.

Second is the alcoholic type—headache, feelings of intoxication and deep coma.

Third—diabetic collapse—the patient, after exertion, is seized with syncope and deepening coma (Osler).

Coma used to be thought to be due to acetone, but it has been found by experiment on animals that a much larger dose of acetone can be tolerated than is found in the blood in diabetes. The blame was then laid upon aceto-acetic acid, but it was also proved not to be the culprit. It is now known to be caused by β -hydroxy-butyric acid ; and the condition is called acidosis.

While not denying this view Marcel Labbé has recently put forward the theory that acidosis may not be the sole cause of coma ; but that some cases, in particular those

which do not respond to treatment by administering alkalies, are due to intoxication by polypeptides (*Universal Medical Record*, June, 1912).

It is important to recognise the threatened onset of coma, and for this the most convenient test is ferric chloride solution. This gives a burgundy red colour with aceto-acetic acid in the urine, and the latter being derived from β -hydroxy-butyric acid suggests its presence.

There is no colour reaction for β -hydroxy-butyric acid.

(3) Treatment.—Finally, a few words as to treatment. Broadly speaking, present day treatment is of three kinds :—

1. Dietetic.
2. Drugs.
3. Pancreatic extracts.

The general aim of dietetic treatment is to free the urine from sugar, and this can be effected to a greater or less extent by a rigid protein diet.

The vindication for the treatment is that by diminishing the hyperglycæmia the power to assimilate carbohydrates is improved and patients can return to a restricted carbohydrate diet. Futcher advises ten days on a rigid diet every three months.

2. Of drugs the best are the opium alkaloids, codein is now most used.

3. Opinion on pancreatic extracts is somewhat divided. Futcher considers them disappointing. In Dublin, I think, the general opinion is that they give the patient his best chance.

So many diseases once purely medical have now been given surgical treatment that he would be a rash man who would deny the possibility that diabetes may one day be added to the number. I venture to think myself that that day may not be so very far off.

The account of a somewhat analogous case appeared in the "Annals of Surgery" of March, 1911.

A patient, a woman, aged twenty-four, was seized with tetany after thyroidectomy by W. H. Brown, of Victoria,

Australia. On a diagnosis that the tetany was the result of removal of the para-thyroids, she was treated with para-thyroid emulsion by injection, which gave slight temporary improvement. Implantation of para-thyroids from a living dog gave great improvement for twelve days, when the symptoms returned. Implantation of ox's para-thyroids gave a similar result. Monkey's para-thyroids were then tried, and she had very little stiffness for sixteen days. Finally, human para-thyroids were obtained half an hour after death from a man who died of Bright's disease, and were implanted within an hour in the anterior abdominal wall, following which there was a steady improvement in the patient's condition. The success of such an operation, taken with the mass of evidence of the cause of diabetes being a deficiency of internal secretion of the pancreas, would justify one in the opinion that the implantation of living human pancreas is at least a procedure worth considering.

REFERENCES.

- Recent Advances in Physiology and Bio-Chemistry. Leonard Hill.
Principles of Pathology. Adami.
System of Medicine. Osler and M'Crae.
Richter's Organic Chemistry. Smith.
Principles and Practice of Medicine. Osler.
-

LITERARY NOTE.

So much attention is being directed to the social welfare and betterment of the poorer classes from a hygienic and eugenic point of view that a practical text-book for the use of health visitors, school nurses, members of guilds of help and other charitable associations, and indeed all those who are interested in the rules of hygiene which must be observed to keep the home and family healthy, will be cordially welcomed. Such a volume is announced for immediate publication by Messrs. P. S. King & Son. The author, Dr. C. W. Hutt, is Senior School Doctor to the Brighton Education Committee and late assistant Medical Officer of Health to the County Borough of Warrington.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Bradshaw Lecture on Some Points in Heredity.

Delivered before the Royal College of Surgeons of England on Dec. 6th, 1911. By R. CLEMENTS LUCAS, B.S., M.B. Lond., F.R.C.S.; Consulting Surgeon to Guy's Hospital and to the Evelina Hospital for Children; Member of the Council and recently Vice-President of the Royal College of Surgeons of England; Member of the Société de Chirurgie of Paris; Fellow and Member of the Council of the Royal Society of Medicine; formerly Lecturer on Surgery and Anatomy in the Medical School of Guy's Hospital. London: Adlard & Son. 1912. 8vo. Pp. 50.

THE first question dealt with is that of inherited diseases and diatheses. The author points out how many diseases—tuberculosis, leprosy, malaria, &c.—once believed to be inherited are now known to be infective, and not directly transmissible. We feel, however, that the “swing of the pendulum” has taken him too far when he refuses to admit any inheritance of a diathesis. He points out that Nägeli found 97 per cent. of autopsies to show that tubercular infection had taken place, but does not explain why some succumb while others resist the invasion.

The next question is one of eugenics, and Mr. Lucas advocates X-ray irradiation as a method of sterilising degenerates.

In dealing with the question of twins, evidence is given of the undoubted hereditary tendency to their production. Dissimilar and identical twins are dealt with, and tables of the same marks obtained by twins in an examination, and of precisely similar reports from seventeen different

teachers on a pair of twins are given. These are certainly striking coincidences, but surely more interesting as being curious, than for their scientific value.

The Mendelian and Galtonian hypotheses are very briefly referred to.

Some interesting cases of hereditary deformities are next given, and attention is drawn to gradual increase of some deformities in succeeding generations.

The author appears curiously inconsistent in his criticism of Weismann's theory. He writes that "though it may be true that body influences of a few generations are not evident in the offspring, when we are dealing with hundreds, thousands, or millions of generations, the effects of use or disuse seem to me scarcely to be denied," and as an illustration he mentions that the disappearance of the little toe in the human foot is "getting ahead of the text-books" of anatomy!

On the whole, though containing nothing essentially new, the lecture will be found interesting by those who claim acquaintance with the intricate subject of heredity.

Dental State Board Questions and Answers. By R. MAX GOEPP, M.D.; Professor of Clinical Medicine at the Philadelphia Polyclinic; Associate in Clinical Medicine at Jefferson Medical College; Assisting Visiting Physician to the Philadelphia General Hospital. Philadelphia and London: W. B. Saunders Company. 1912. 8vo. Pp. 428.

THIS portly volume must prove a suggestive index of the scientific standard of an important department of what may not inaptly be referred to as "*surface surgery*"—have regard to the fact that "*surface*" science is made to bulk so largely in the educational equipment of a generation whose members are in too great a hurry to wait to think, in the scrimmaging excitement to "get there" (or somewhere, somehow or anyhow). The brilliant success with which our trans-Atlantic brethren have concentrated their attention on the sub-

ject of dentistry bears illuminating testimony to the eminently practical quality of the American genius, and the splendid results which so often reward its research and the application of the findings of the same. The permanent importance of this specialty can hardly fade while the human frame remains the same, and the human race, accordingly, continues to pay its unavoidable toll of physical suffering. And did not some native citizen philosopher of the great Western Republic enunciate the aphoristic experience that one of the few consolations of old age is that we have passed the days of the "jumping toothache"? The impulsive ethics and moderate experience of Romeo could furnish no apter illustration of the emotionally unbearable than that afforded by the physical throes of odontalgia! Nor could the Caledonian inspiration of the national poet of North Britain! So that it should be no matter of surprise for us, while it is surely worthy matter of congratulation for them, that our trans-Atlantic cousins have taken the toothache so seriously, and have focussed thereon all the search-light beams of modern science—instead of regarding it distantly with the mingled feelings of fear, hatred, ridicule, and contempt with which it was formerly regarded in the communities of the Eastern Hemisphere.

In the troublous examinational period of the life-pilgrimage of the present reviewer, it used to be said of the D.P.H. test of his *Alma Mater* that it included every subject taught within the walls of the University—with the solitary exception of theology. Philadelphian dentistry—to judge from the contents of the volume before us—would seem to be approachable only through a correspondingly "strait gate," and a thorny pathway (as well as narrow). For we have here included searching queries—penetrating, even, and comprehensive, too—regarding the mysteries of *physics* (with a special subsection of *electricity*); *chemistry* (inorganic, organic, physiologic, and—metallurgical); *anatomy* (with a wide and water-tight compartment of *embryology*); *physiology* (in its most comprehensive aspects); *pathology* (with the

most up to-date views on degeneration, inflammation, infection, and all the &cs.) ; *bacteriology* ; *materia medica and therapeutics* ; *hygiene* ; *surgery* ; *orthodontia* ; *operative dentistry* ; *prosthetic dentistry*. Thus the student who has intelligently mastered the professional syllabus represented by the contents of this highly comprehensive volume may well be said to have had thrown on the screen of his mental vision a circular cinematogram of the fundamental sciences on which the whole art of healing is at present constructed and supported. The answers to the practically innumerable questions included in this comprehensive catechism are given in the refreshingly translucent style which characterises the best order of American professional literature. And in closing the volume, the reflection rises—with uninvited regret—to our appreciative mental vision : what would we not have given for such a guide-book in the days of our weary travel through the labyrinthine mazes of our own curriculum !

Preventable Cancer : A Statistical Research. By ROLLO RUSSELL. London, New York, Bombay, and Calcutta : Longmans, Green & Co. 1912. Cr. 8vo. Pp. vii. + 168.

CANCER has recently come to bid fair for rivalry to tuberculosis—as a claimant to popular attention, and as a stimulant to the strenuous efforts of the scientific expert and the clinical statistician. Numerous volumes bear testimony to the philanthropic zeal of the experts who are in continuous pursuit of the still evasive luminosity which is destined to prove, ultimately, the unerring pilot of the compassless cruiser that now seeks the ultimate haven of anti-cancerous redemption. The contribution of Mr. Rollo Russell is a fairly representative, and tolerably respectable, member of its class. It embraces the clinical facts and statistical figures of a good many years, and an almost limitless series of geographical areas—instructive in their climatology, their ethnology, their predisposing modifications of normal physiology ; and even their implied

associations of psychology and pathology. And there is surely no aspect of the individual, of the group, or of the series of the same, that does not contribute its (at least, possible) ray of illumination to the general atmosphere of this vast circumterrestrial problem. Sir Benjamin Richardson stated in 1872 that "I am not far wrong in saying that no butcher can be found in our large towns who, after eight or ten years daily work at the slaughter-house, is free from the effects of rheumatism or heart disease." And the illustrative comment of our author contains the following statements:—"With this high general mortality, these classes, publicans and their servants, butchers, commercial travellers, cabmen, hawkers, chimney-sweeps, and others, had a high mortality from cancer. The significant fact appeared that the very classes most subject to death from alcoholism, liver diseases, &c., were most subject to cancer." And are not these the classes of which the physiognomy of the *advanced* members suggests most emphatically a distinct tendency to *ante-mortem* decomposition of tissue? Other items of important deductive statistics furnish material for very strong—at least, very plausible—arguments in favour of vegetarianism, and of the general practices of the 'simple life': "The Doukhobors in Canada refrain from fish, flesh, or fowl, as food, and live on fruit, vegetables, and nuts. Cows are kept for milk. No tea or coffee is drunk. Wholesome bread, jam, honey, and vegetable butter from sunflower seeds are eaten regularly. The houses are roomy, airy, and clean, the people wash frequently in baths and are scrupulously clean, regular, and orderly. Field labour ceases on Saturday at noon till Monday. There is scarcely any illness; a year passes without a single serious case." Then we learn that "Dr. Kellogg has lived in a community (Battle Creek) of flesh-abstainers for forty-five years, and for forty of those years he has made careful note regarding the incidence of cancer amongst them. In all that time he has only known two instances of cancer in flesh-abstainers."

The above quotations must tend to convince the

receptive reader that the present position of cancer is strongly demonstrative of the validity of the grand old aphorism : "*Prevention is better than cure !*" Also that the most important weapons to be utilised against the out-lying enemy are *hygienic* and *dietetic*. And in this position we continue to await the discovery of knowledge and method more immediately utilisable.

Diseases of the Eye. By M. STEPHEN MAYOU, F.R.C.S. ; late Hunterian Professor, R.C.S. ; Surgeon Central London Ophthalmic Hospital ; Ophthalmic Surgeon, Bolingbroke Hospital, and to Paddington Green Children's Hospital, &c. Oxford Medical Publications London : Henry Frowde and Hodder & Stoughton. 1912. Cr. 8vo. Pp. xv + 306. 124 original illustrations and eight colour plates.

THIS book has already reached a second edition, thus showing that it is popular amongst the class for whom it is chiefly intended—the students. Of its kind, it is a very good example. The author has endeavoured to, at least, name most of the eye conditions which are commonly met with in practice. Naturally, owing to the size of the book, in many instances only the name of the condition, followed by a very brief definition, can be mentioned. Still the commoner diseases are more fully treated and described, and this is exactly what a student wants. Mr. Mayou throughout is dogmatic—he admits himself to be so in his preface—and we cannot find fault with him for that. It is essential in teaching students.

The book has been brought well up to date, save in one or two instances. No mention is made of either Bjerrum's method of testing the field of vision, nor of Priestley Smith's modification of that method.

We lay stress on this point, for the method is of the utmost importance in detecting glaucoma at a very early stage—so early that the ordinary perimeter tests fail as a rule. Again, no mention is made of Major Elliott's trephining operation for chronic glaucoma—certainly the easiest and best way of making a filtration cicatrix.

We are sorry to see that Mr. Mayou retains the term "keratitis punctata" instead of the now more usual—perhaps more cumbersome—term "posterior punctate corneal deposits." The latter phrase expresses the exact condition. It is a curious oversight that there is no mention of traumatic cataract in the chapter on diseases of the lens. Nor was there, if we remember aright, in the first edition.

Of the various illustrations—especially the excellent micro-photographs—we have nothing but praise. The spacing of the formulæ in the appendix needs revision. The general get-up of the book is very good.

The Etiology, Diagnosis, and Prophylaxis of Pulmonary Phthisis, considered chiefly from the Public Health point of view, with an Appendix on the Tuberculin Treatment of the disease. By ALFRED HARRIS, M.B., Ch.B., Victoria; D.P.H., Cambridge; Senior Assistant and Deputy Medical Officer of Health, Southampton; Bacteriologist to the Southampton Corporation; formerly Resident Medical Officer to the Crossley Sanatorium for the Treatment of Phthisis, &c. Bristol: John Wright & Sons, Ltd. 1912. 8vo. Pp. 126, with Charts.

IN the short space of 126 pages Dr. Harris deals with tuberculosis from the social, economic, and public health point of view, and in general he does so with accuracy and in a manner which displays practical insight. He is an advocate of the Tuberculosis Dispensary as the keystone of the system of public control of the disease, and rightly recognises the work of Dr. Philip, of Edinburgh, the pioneer of the Dispensary System. He also advocates the use of tuberculin in the treatment of selected cases. There are errors here and there in the book which come as a shock to the reader. Thus Robert Koch is described as "the initiator and founder of modern bacteriology," an honour which for all time must be conferred on Louis Pasteur. Again, in dealing with tuberculin treatment as employed at the Southampton Municipal Hospital, he states that the particular preparation used is P. T. O. as made

at Hoechst-am-Main by Messrs. Meister, Lucius, and Brüning. His description of the method of preparation is inaccurate, and his statement that the fluid contains endotoxins and exotoxins is erroneous, as P. T. O contains exotoxins only.

In spite of these errors, however, the book is readable, concise, and suggestive, and its study should prove helpful to many physicians and Public Health workers who find it difficult to keep abreast of the advances which are being made in so many directions in regard to the national problem of tuberculosis.

Infant Feeding. By CLIFFORD G. GRULEE, A.M., M.D.; Assistant Professor of Pediatrics at Rush Medical College; Pediatrician to Cook County, Provident, and Saint Bernard's Hospitals, &c., &c., Chicago. Illustrated. Philadelphia and London: W. B. Saunders Company. 1912. 8vo. Pp. 295.

THE author, Dr. C. G. Grulee, has given a useful book to his professional brethren. But the reader must emulate Job in patience if he has the staying power to carry him through its 295 pages. Every paragraph bristles with Americanisms, and such "isms" are far from euphonic. Overcoming these cacophonisms, the reader finds the opening chapters most instructive, and to the beginner most helpful. He is, however, like Bunyan's Pilgrim, ever to meet disappointment, tables of chemical analyses confront him, in which he learns of the percentage of glycerids, of insoluble and non-volatile acids and glycerids of soluble and volatile acids in milk, and of the percentage of caproin, caprylin, caprinin, and butyryn. The mind becomes wearied with columns of figures, and the book is laid aside. Should the reader, however, turn to the illustrations, which consist of coloured photographs of babies' faecal stools and photographs of the "before and after" type so familiar to our eyes on poster hoardings, with, of course, the one of the trained nurse in the discharge of her life-saving duties, he will be sorely tempted to throw the book

aside. Letterpress could have made all these facts—to illustrate which the photographs were introduced—plain and more intelligible than the illustrations do. Withal the book is a good one and a helpful; but it is not a readable one, and it is padded out with useless statistics and valueless illustrations. If these were deleted, as also some padding, and the truly valuable matter concisely edited, the book would be reduced by about 100 pages, and be made into a convenient and trustworthy pocket-book for all such practitioners as include many children in their list of clients.

Insomnia: Its Causes and Treatment. By SIR JAMES SAWYER, of London, Doctor of Medicine of the University, F.R.C.P., &c. Second Edition. With many revisions and additions. Birmingham: Cornish Bros. 1912. 8vo. Pp. 107.

THIS booklet consists of reprints of three lectures which have appeared in the *Lancet* and *British Medical Journal*, slightly amended. They might be named "Pages from the Diary of a Physician," for they are essentially practical and clinical, and their value consists in their being the matured considerations on one of the most difficult problems in Medicine, of a physician who justly attained to distinction at home, and secured a world-wide recognition as a clinician. The booklet has reached a second edition, and will undoubtedly reach many more when it becomes better known.

Infection and Recovery from Infection. By SIMON FLEXNER, M.D. Hamilton Lecture. Smithsonian Miscellaneous Collections. Volume 59, No. 8. City of Washington: The Smithsonian Institution. May 29, 1912. Pp. 14. With Five Plates.

IN this lecture, delivered at Washington, D.C., on February 8, 1912, under the auspices of the Hamilton Fund of the Smithsonian Institution, we find the very latest views on Infection set out clearly and in excellent Eng-

lish by a master-hand. Dr. Flexner's standing as a scientific physician, no less than as a pathologist and bacteriologist, has long since been assured, and his researches on epidemic cerebro-spinal fever and its treatment by injection into the spinal canal of the anti-diplococcus serum are well known throughout the civilised world.

In his capacity as Director of the Laboratories of the Rockefeller Institute for Medical Research in New York Dr. Flexner enjoys unequalled opportunities for studying the processes of infection and the external and internal defensive mechanism possessed by the body against those processes. These lines of defence are described in the author's "Hamilton Lecture," which is illustrated by five highly-finished plates, and contains much original and suggestive matter bearing on an all-important theme.

SOME RECENT BOOKLETS.

1. *Physiology and Anatomy made Easy*. By LUCY BROOKS. London: The Scientific Press, Ltd. 1912. Pp. 104.
2. *The Tuberculin Treatment of Consumption*. By H. VAUGHAN BARBER, L.R.C.P. London: James Nisbet & Co., Ltd. 1912. Pp. 32.
3. *Lectures upon the Nursing of Infectious Diseases*. By F. J. WOOLLACOTT, M.A., M.D., B.Ch. Oxon., D.P.H. The Scientific Press, Ltd. Second Edition. N. D. Pp. 151.
4. *Herself: Talks with Women concerning Themselves*. Pp. 221. 5. *False Modesty: That Protects Vice by Ignorance*. Pp. 110. 6. *Confidences: Talks with a Young Girl concerning Herself*. Pp. 94. 7. *Truths: Talks with a Boy concerning Himself*. Pp. 95. By EDITH B. LOWRY, M.D. Chicago: Forbes & Co. 1912.
1. In "Physiology and Anatomy made Easy" Sister Brooks gives just what a nurse must know. The illustrations are mostly well chosen and clear, though the dia-

gram of the uterus on page 87 is not helpful to the understanding; the questions at the end of the chapters are easily applied tests of knowledge.

2. "THE Tuberculin Treatment of Consumption" is a party pronouncement in favour of tuberculin dispensaries. It seems intended rather to create a demand by the public for such treatment than to help medical men to administer it.

3. LITTLE new material is added in the second edition of Dr. Woollacott's lectures, but he devotes a short space to "barrier nursing" and "cubicle nursing." The book is, however, so clear and accurate that additions or alterations would be as likely to injure as to improve.

4, 5, 6, and 7. DR. EDITH LOWRY'S four books are variations on the text that both boys and girls should get early and clear instruction in matters pertaining to sex. Whether such books more guard the virtuous or interest the prurient is an open question, but the offer of the publishers to Editors of papers publishing reviews:—"We shall be pleased to supply electrotypes or photograph of the author upon request"—is not in harmony with medical feeling at this side of the Atlantic.

Sexual Impotence. By VICTOR G. VECKI, M.D.; Consulting Genito-Urinary Surgeon to the Mount Zion Hospital, San Francisco. Fourth Edition, enlarged. Philadelphia and London: W. B. Saunders Company. 1912. 8vo. Pp. 394.

THE remarkable success of this treatise, in each of its three previous editions, would appear to justify its existence most amply—at least from the view-point of the onlooker who regards materialistic success as the ultimate goal of ambitious effort. There are surely solid grounds for the author's reflection, in the opening paragraph of his preface to the current issue, that: "The enormous strides made during the past twenty years towards a rational consideration of the many perplexing

problems of the normal functions of the sexual organs and their pathology are most gratifying to the pioneers in this field." Credit is given by Dr. Vecki for "this fortunate change of front," and the growing benefit to the human race which must continue to result therefrom—increasing in geometrical progression—with the lapse of time, to "the extraordinary progress that modern urology has bestowed upon modern medicine." Physiologists refused to consider the functions of the male sexual organs, and at the same time relegated the urinary organs generally to the domain of "*internal medicine*." But, in the course of its recent seven-league strides of progress, "this youngest medical specialty" of *urology* invaded the respective fenced domains of physiology and internal medicine almost at the same time. Then came the newest ally to the sexual sub-division of urology, "the riddle of internal secretion." This latest *crux* is regarded by our author as "probably one of the most important that medicine ever tried to solve." In keeping with the practical spirit of modern clinical discovery, it may well have been anticipated by the experienced that the revelations of "newly invented, excellent urethrosopes with which we can really see" have had the effect upon specialist practice that: "even the most one-sided neurologists were compelled to acknowledge that many a neurasthenic in reality had an ampulla, a vesicula seminalis or two, a prostate or a verumontanum that needed the urologist's help." This is all, of course, as it should be, especially—at present date—from the point of view of the growing urologist; as it surely shall be throughout the whole clinical world in the near future, when all the marginal boundaries and outstanding features of the new specialty come to have their respective outlines clearly defined, and the connotative significance of each translated into language which can be read by the skilled expert as he runs.

The original issue of this work appeared in the year 1889, and in the German language. As the immediate result of its publication, "there was some commotion in the

ranks of old and young medical fogies, who were indignant that anyone dare to resist their intellectual tendencies, refused to worship their superannuated gods." The phenomenal success of the book has furnished the most unanswerable reply to the uncharitable criticism which every original work, earnestly carried out in an important department of thought or action, never fails to elicit—from the jealousy of the fossilising senior, and the malignant envy of the contemporary. And most ample corroboration was surely furnished, for the benefit of the earnest and unprejudiced inquirer, in the fulness of the light that was openly thrown upon all sexual matters in the exhaustive display provided last year in *Die internationale Hygiene-ausstellung* at Dresden—the largest in volume, and most complete in detail, of all the votive offerings of demonstrative appreciation of the Goddess of Health that the world has hitherto seen.

Some additions and modifications are to be found in the chapters of the present edition, which deal with the treatment of sexual impotence; "but none in those dealing with the sociological and ethical sides of our subject"—as the author points out with an honest pride which may well be his praise. And we feel it to be our duty to affirm, in the fulfilment of the duty of our critical responsibility, that this volume is one which every practitioner should consult. For the questions with which it deals are coeval with the earliest of human existence, and will never cease to accompany the human race throughout the whole period of its allotted pilgrimage.

Microbes and Toxins. By DR. ÉTIENNE BURNET, of the Pasteur Institute of Paris. Translated from the French by DR. CHARLES BROQUET and W. M. SCOTT, M.D. London: William Heinemann. 1912. Cr. 8vo. Pp. xvi + 316.

THIS book puts in a concise and intelligible manner all that the average individual desires to know of its subject.

In it we find an interesting account of microbic life,

especially as dealing with disease. Immunity and anaphylaxis are dealt with as fully as our present knowledge and the size of the volume would allow the author to go.

We are glad to think that such a readable book upon so abstruse a subject can now be placed in our book-shelves for reference and study.

An Operating Theatre in Private Practice. By C. HAMILTON WHITEFORD, M.R.C.S., L.R.C.P. London: Harrison & Sons. 1912. Pp. 76.

THIS small volume practically consists in the description of the details of an operating theatre, built on to a private hospital by the author. The methods of sterilisation and the appliances used are described, as are also the lobby, the anæsthetising room, the dressing room, and the sterilising room.

To anyone interested in the details of such a building, we can thoroughly recommend this book.

Some references as to where the appliances used can be procured would be useful to readers who may wish to obtain them.

The book is nicely turned out. The printing is very good and the index complete.

Materia Medica and Therapeutics. By J. MITCHELL BRUCE, M.A., LL.D. (Hon.) Aberd., M.D. Lond. F.R.C.P., Consulting Physician to Charing Cross Hospital and to the Hospital for Consumption, Brompton. Assisted by WALTER J. DILLING, M.B., Ch.B. Aberd., Lecturer in Pharmacology, Aberdeen University. Ninth Edition, carefully revised. London, New York, Toronto and Melbourne: Cassell & Co. 1912. Cr. 8vo. Pp. xii + 644.

THE reviewer's task in regard to Mitchell Bruce's "*Materia Medica and Therapeutics*" is an easy one. The work has passed through nine editions, several of which have been repeatedly reprinted, and the present issue is the fifty-fourth thousand.

Dr. Walter J. Dilling's name appears on the title-page for the first time—a circumstance which, perhaps, accounts for the prominence now assigned to Pharmacology and Pharmacological Chemistry in this admirable book.

It is a pity that Part IV. on "General Therapeutics" is printed in such small type. The reader's eyes would have been saved much trouble and fatigue had the very important letterpress in this section of the work been set in small pica instead of long primer. The same criticism applies with added force to the brief but clear account, in the Appendix, of vaccine-therapy. Antitoxins and anti-bacterial serums had already been noticed in the body of the work at pages 433 and 434. In the Appendix also mention is made of organotherapy. The authors have something to say in favour of thyroid, suprarenal, and pituitary gland extracts—but "extracts of almost all the other glands and tissues of the body have been tried therapeutically, with relatively disappointing results" (page 627).

Short sections on "Iontophoresis," or "Ionic Medication," and "Radium" and "Radium Bromide" bring this excellent manual to a close.

A Cyclopedia of American Medical Biography, comprising the Lives of eminent deceased Physicians and Surgeons from 1610 to 1910. By HOWARD A. KELLY, M.D. Illustrated with Portraits. In two volumes. Philadelphia and London: W. B. Saunders Company. 1712. 8vo. Vol. I. Pp. lxxxv and 424. Vol. II. Pp. vii and 545.

MEDICAL biography is a subject that has always attracted the attention of those who interested themselves in the past records of our profession, and the history of Medicine is linked in a peculiarly intimate way with the lives of those whose work it records. Though this is so, and though many biographies of individual members of the profession exist, it has often astonished us to find how completely the facts concerning the lives of even distinguished physicians are lost. With the growth of medical journalism during the last century this state of

affairs has been considerably altered, and some record of the life of almost every medical man of any distinction is now preserved in the obituary notices in the medical papers. Previous to this, however, such records were few and far between, and even of well-known men of the seventeenth and eighteenth centuries little biographical record often exists. In 1861 William Munk published his monumental work of the roll of the Royal College of Physicians of London, but though he was dealing with a limited class, and brought to his work the greatest erudition and patience, still many of his notices contain little more than the names of the individuals recorded.

Dr. Kelly has not attempted to write himself the twelve hundred biographies which this book contains, but has enlisted the aid of numerous assistants scattered far and wide throughout the Continent. A work compiled in this way may lack some uniformity in execution, but it more than makes up for this by the individuality imparted to the biographies recorded by the different writers.

The book, of course, appeals more to Americans and Canadians than it does to us in these countries, though it is by no means devoid of interest to us. Large numbers of men from the British Isles have settled in the American Continent, and many of these have, either by themselves or through their descendants, made their names famous as medical practitioners. It is just such men as these whose lives are difficult for us to trace, and in such investigations this work will prove a mine of information.

The portrait illustrations, which are very well done, add considerable interest to the book, many of them being copied from pictures which were not previously available to students in this country. The book is printed in a clear, readable type, and the arrangement in alphabetical order of the biographies makes reference easy. It is, we think, a pity that a tabular list of the names of those treated of has not been given; such a list, though not essential, would have made the task of reference more easy.

We offer Dr. Kelly our sincere thanks for his work, a work which we foresee will save future writers much laborious research.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

SYPHILIS OF THE THYROID GLAND. By MM. ANTONIN PONCET and RÉNÉ LERICHE. Translated from the *Gazette des Hôpitaux*, 85e Année, No. 63, by GEORGE MAHOOD FOY, M.D., F.R.C.S.I.

IN the course of a discussion which we had last year, M. Sebilean made two very interesting observations on syphilis of the thyroid, and of its extreme rarity, it being possible to have a long surgical experience without meeting a case of it. We, therefore, bring the following case forward:—A woman, thirty-eight years old, of thrifty habits, came to our clinic on the 19th of January, 1911, complaining of a swelling of the neck, a hoarse voice, and a progressive dyspnoea; otherwise her health is good. Her changes, which had never been very regular, ceased some nine months ago. She has never been pregnant. Questioned closely, she denied ever having had syphilis; and we found no evidence of the disease until the year 1907. Then we discovered a swelling on the superior extremity of the tibia which was rebellious to all treatment for eighteen months, but yielded quickly to treatment by iodide of potassium. After this she developed a similar swelling on the ensiform cartilage, for which she was successfully treated at the Hôtel-Dieu by specific remedies. Finally, she came to hospital during a crisis of acute rheumatism (probably syphilitic). Perfectly free from all these ailments she, some four or five months afterwards, became an hospital inmate for a distinct lateral swelling of her thyroid gland. She never previously suffered from goitre. Quickly the swelling increased, and she commenced to experience dyspnoea and dysphagia; then her voice changed and became hoarse.

On examination we found a diffuse swelling occupying the site of the thyroid gland, slightly more marked on the right

side. The mass stood out in bold relief under the skin. Its persistent characteristic was, however, the great hardness of the mass—in fact, hard on palpation, as a block of wood—a wooden thyroid. Knowing the history of the case, we commenced treatment by injections of biniodide of mercury; the tumefaction quickly diminished, the swelling became softer, and the dyspnœa less marked. From this effect of specific treatment, we were able to affirm that she had syphilis of the thyroid gland, and the patient was presented on the 6th of February, 1911, at a meeting of the National Society of Medicine of Lyons. We believed that we had effected a cure. It quickly turned out that the treatment adopted was insufficient; the improvement was but an arrest, but a little more slowly, during the use of hypodermics of biniodide of mercury. The dyspnœa reappeared more markedly than before, and the thyroid enlargement became larger than ever and of a wooden firmness. Nine sittings of radio-therapy produced no favourable result. On the contrary, after the ninth sitting the firmness of the thyroid became very hard and wooden, the prominence of the superficial veins and violet colour of the skin told of the obstruction of the deeper venous vessels. The dyspnœa was intense, and the loss of voice told of compression of the recurrent nerve. On both sides of the neck we found more than one chain of small painful glands. At this time the condition closely simulated cancer, and on that suspicion the patient was operated on (April 16th, 1911).

Half-an-hour before the operation the patient got a hypodermic of two centigrammes of omnopon, and at the moment of incising the skin, some drops of ether. The anæsthesia produced was perfect and without incident. A curved transverse incision down to the muscles revealed an œdematous condition with adherence of the tissues to a lardaceous substance which obliterated the interspaces normally present between the muscles and the organs of the neck. The gland being laid bare, we prepared to raise it up in mass; it was hard, glossy, and yellowish. No sign of cleavage was to be seen, and we formed the opinion that we were dealing with a thyroid cancer in a state of extraglandular extension.

We decided to perform a palliative and partial thyroidectomy, and removed from the left side a small mass, which consisted principally of thyroid tissue, and with a finger we isolated with great difficulty the left lobe and the isthmus. Below and behind, lines of cleavage were absent, and we found an extra-thyroid mass on the tracheal surface. On the

right side we also found an extra-thyroid mass below the body of the gland and at a considerable distance from it. Finally, the gland was enucleated, though imperfectly, it was levered from below upwards, and raised, carefully, from the trachea. to which it was intimately adherent. We came on a fine thread of gland tissue, on the centre of the trachea, which appeared to perforate it. Continuing the traction, the thread yielded, and a whistling sound indicated that the tube was opened. The opening was very small; a slight tampon obliterated it, and we were not inconvenienced by it. The operation was completed very easily; we put on some ligatures, plugged with gauze, sutured the muscles and the skin, dressed the wound with Neapolitan ointment. The after results were very satisfactory—the ligatures came away on the fourth day, about the third the voice returned, and on the 6th of May she left hospital. We were then convinced of her recovery. But on the 1st of June she came back, telling us that on the 28th of May the dyspnœa returned and became more distressing. Briefly the dyspnœa was painfully severe, respiration was attended with great difficulty. The neck was hard—wooden; the superficial veins very prominent. The gland was less in size than before the operation, but since then it had somewhat enlarged. Laryngoscopic examination demonstrated the presence of a fungoid diaphragmatic substance immediately below the larynx. Iodide of potassium was again prescribed with daily injections of soluble salts of mercury. The iodide was, however, badly borne; it intensified the respiratory troubles, and the lesion did not diminish. The biniodide and the subchloride of mercury were also inefficacious. We now sent the patient to the country, and prescribed the local application of Neapolitan ointment and the use of arsenic. Under this treatment the patient somewhat improved, but soon the symptoms became again distressing; the dyspnœa continued, with occasional intervals of relief. Laryngoscopy showed that the local conditions were worse; so, at the beginning of September, we decided to open the trachea and scrape off the fungoid growth. Before, however, doing this we decided to try the effects of an injection of the di-hydrochloride of dioxy-diamino-arseno-benzol (salvarsan). On the 12th of September, before giving the injection the larynx was examined: the vocal cords were not paralysed, there was no supraglottic lesion; but the subglottic region was infiltrated so much that the lumen of the air passage was almost completely obliterated. Some few minutes afterwards we gave

an injection of salvarsan (40 centigrammes). Because of the marked vaso-dilator action of the salvarsan, and having seen the accidents produced by the salt in similar cases, we gave a small dose. The injection was followed by headache, vomiting, and purging, and some hours afterwards by a severe paroxysm of dyspnœa with laboured respiration. The paroxysm was the most severe the patient ever had, and on its subsidence she suffered from severe and long-continued pains. In the evening she was much better. September 16th, patient better, respiration easy, cough of compression gone. September 19th, a sensible increase in the size of the lumen of the trachea; the syphilitic infiltration no longer gave to the subglottic region the appearance of a funnel, the base of which was at the vocal fissure; it was diminished both in height and width. The vocal cords are quite free. On the same day the second injection of salvarsan (40 cgms.) was given, which was followed by a reaction, less severe than the first, accompanied, however by a rise of temperature to 39.1° , vomiting, and headache. On the 1st of October she was for the third time submitted to a laryngeal examination. We found more than one cicatrix of a normal rose colour, at the point of the anterior attachment of the vocal cords. The patient feels quite well; her voice is normal, her breathing easy, and all feeling of suffocation is gone. The same day we made an injection of 60 centigrammes of salvarsan; the reaction was feeble, her temperature did not rise over 38.7° , and she did not suffer from purging or vomiting. As to this treatment the cure is as perfect and as rapid as is obtainable by the mercurial method. This year (January, 1912) we examined the patient, and found her in excellent health, perfectly free from respiratory trouble, and again more recently (May 13th, 1912) and find that she remains in good health.

TÆNIA AND TUBERCULOSIS.

M. PERARD (Société de Biologie) states that tape-worm is met with in the same frequency in the tuberculous and the non-tuberculous. The parasites in tuberculous patients are met with at the beginning of the attack and in those in whom the disease is well advanced. One meets with tubercular lesions in the immediate vicinity of the parasites. Cestodes have no influence whatever on the prophylaxis or evolution of tuberculosis.—*Gazette des Hôpitaux*, No. 54, Année 85, p. 808.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—SIR CHARLES BALL, BART., M.D., F.R.C.S.J.

General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—A. J. HORNE, F.R.C.P.I.

Sectional Secretary—G. FITZGIBBON, M.D., F.R.C.P.I.

Friday, May 3, 1912.

THE PRESIDENT in the Chair.

Full-term Pregnancy obstructed by a large Sub-peritoneal Myoma.

DR. H. JELLETT showed a specimen of full-time pregnancy obstructed by a large sub-peritoneal myoma. The specimen was interesting from the size of the tumour. The patient was sent to the Rotunda with a history of having been in labour for four or five days. The contraction had passed off, the fœtus was dead, and she had a temperature of 103° and pulse of 140. The abdomen was opened, and a complete hysterectomy performed, which the patient stood well. She, however, died in two or three days of sepsis. The operation was difficult, as practically the whole mass of the tumour was extra-peritoneal. It was unusual to get a myoma of the size associated with full-term pregnancy.

Suppurating Ovarian Vein removed in a case of Pyæmia.

DR. H. JELLETT also exhibited a specimen of suppurating ovarian vein removed in a case of pyæmia. This specimen was of interest as it was the first of the kind operated on in Ireland. Two other women had died at the Rotunda from sepsis associated with thrombosis of the ovarian vein, and, in consequence, it was decided that when another case of the kind arose operation would be tried. The patient from whom the specimen was obtained came to hospital on the 17th of February, 1912. Pulse and temperature remained

normal until the 22nd of February, when the temperature rose to 101.5°. Douching of the uterus succeeded in reducing the temperature. Two days afterwards she got a rigor, and another on the following day, and her temperature remained very high for the next two days. On the 29th of February she got a third rigor, and a fourth on the 2nd of March. It was then decided to operate, as an irregular mass could be felt at one side of the uterus. On opening the abdomen a swelling was found in the right broad ligament, and extending upwards above the pelvic brim. The swelling was found to get smaller as it went upward, and gradually tapered into a cord, which suggested that it was a vein. On being cut through a clot was found which proved it to be a vein. On reaching the uterus it widened out into the supplying venules. The patient made a very satisfactory recovery. It was pointed out that the mortality after the removal of thrombosis of the ovarian veins associated with pyæmia was only 15 per cent., while the mortality in cases which were not operated on was at least 60 per cent. Dr. Jellett maintained that in pyæmic conditions associated with thrombosis and rigors operation is indicated.

DR. HASTINGS TWEEDY congratulated Dr. Jellett on what he believed to be the first successful operation of the kind in Ireland.

DR. JELLETT, in replying, said that cases may be met with which would not be suitable for operation, and that this one was peculiarly suitable.

Clinical Report of the Rotunda Hospital for the Year ending October 31st, 1911.

DR. H. JELLETT, in introducing the above Report, said that during the past clinical year 2,211 patients were delivered under the care of the hospital in its extern department, and 2,608 patients were admitted to the maternity wards. [The Report will be found *in extenso* at pages 14 and 96].

DR. E. H. TWEEDY congratulated the Master of the Rotunda Hospital on this, his first Report. These Reports appealed to all obstetricians, because they represented a considerable amount of accuracy in the compilation of their statistical tables—ininitely greater accuracy than it is possible to obtain in the records of any extern maternity.

The greatest credit is due to the Master for the perfection attained in his new labour wards. In criticising the Report his (Dr. Tweedy's) first protest must be directed towards the plan of compelling patients to get out of bed at the end of forty-eight hours. Apart altogether from the probability that such disturbance would predispose to prolapse or backward displacements of the uterus, because of the latter's mobility, its weight, and the relaxed condition of its supports, there is, he thought, an element of inhumanity in denying a woman the right to a good long rest after the wearing months of pregnancy, and the laborious efforts of delivery. In respect to perfect drainage, this has for years been efficiently provided for in the hospital, by plans which need not now be detailed. Amongst the 14,000 infants born in the hospital during his (Dr. Tweedy's) Mastership nineteen developed ophthalmia; these figures could be relied upon. If silver nitrate had the harmful effect attributed to it in causing inflammation, this inflammation would have been noted as a case of ophthalmia, and duly recorded. In his opinion the development of ophthalmia in those nineteen cases would receive a possible explanation in the undoubted fact that occasionally a probationer nurse does not succeed in getting the silver nitrate solution into the eye. This, no doubt, is a rare occurrence, but it is one that must not be ignored. Chloroform, if given in eclampsia, should be administered in very small quantities, not more than twenty minims at a time, and at long intervals.

DR. CRAWLEY (Consulting Ophthalmic Surgeon to the Rotunda Hospital), referring to the substitution of argyrol for silver nitrate as a prophylactic, said that he understood that the prophylactic treatment at the hospital was to put into the eye of every child a drop of silver nitrate solution, the strength of which he did not know, and he gathered from the remarks of the late Master that the drop did not always reach the eye. His opinion was that it ought to. If one of his patients was running the risk, in his opinion, of getting gonorrhœal ophthalmia he would, without doubt, put silver nitrate into the eye in a 1 per cent. solution as a prophylactic. He did not use it as an antiseptic, but as a caustic. He had no doubt that even if silver nitrate solution was dropped into the eye of every child there would still be a certain number of cases

of gonorrhœal ophthalmia and ophthalmia neonatorum. When he had been consulted about some of the cases at the Rotunda, and ascertained that argyrol was being used, he suggested going back to the silver nitrate, and since then he was not called so often to such cases. The case referred to in the Rotunda Report was one in which silver nitrate had been used, but when he first saw the case, the bad eye—ultimately lost—was covered with a bandage. This loss, in his opinion, was hardly to be entirely attributed to the use of silver nitrate, as the bandage, so used, would have been sufficient to cause most serious damage to the cornea. He did not agree with the President that it would be better to discard all but “aseptics,” for he had seen at the Royal Victoria Eye and Ear Hospital a number of cases coming from Holles Street and the Coombe Maternity Hospitals. He would consider the old method at the Rotunda better than the new until it was proved otherwise.

DR. CROFTON said part of the Report which referred to puerperal fever and to ophthalmia neonatorum was of the greatest interest to the vaccine therapist. There appeared to be a difference of opinion regarding the treatment of ophthalmia neonatorum. He would suggest finding out the cause of the trouble, as it might be due to a variety of microbes, and then to treat it with vaccine. He said this was a condition which could be treated by inoculation with the very best results, and he saw no reason why a child should not have a prophylactic injection if the mother was suffering from a specific vaginitis, or if her previous children had suffered from the disease.

DR. GIBSON said he would have liked to have had fuller information given in the Report about the more important cases. He always believed that the prone posture was unsuitable for patients that needed drainage, and it was, therefore, his practice to sit the patients up in bed from the third day onwards; but to get them out of bed in the time suggested in the Report would make it difficult to keep some of the patients in hospital for a sufficient length of time. He agreed with the remark about the difficulty of vaginal Cæsarean section of incising the cervix when it could not be pulled down, but he could not agree as to the hæmorrhage, which is not very difficult to control after the uterus is emptied. He had found in cases of sepsis the greatest

assistance from the use of small doses of vaccines, and had to thank Dr. Rowlette for his advice in this matter. Referring to ophthalmia, it was his practice in the Coombe Hospital to use a 1 per cent. solution of nitrate of silver as a prophylactic, with the precaution that it was washed out after three minutes with saline solution. He would be very sorry to see the practice of using it dropped, as he had far fewer cases of ophthalmia to deal with since this treatment had been adopted. He considered that the principal benefit to be derived from delivery in the first stage in cases of eclampsia was that it bled the patient. In the cases of placenta prævia he noticed there was an infantile death-rate of 60 per cent., and all the cases but one were at term. He would like to know if Dr. Jellett had changed his mind as to the treatment of cases of placenta prævia at or near full term by Cæsarean section. There was no information as to the site of the cervix when version was performed but in one case. Turning to the gynæcological part of the Report, his experience of Wertheim's interposition operation when performed without shortening of the uterosacral folds was that it was unsuccessful in the treatment of complete prolapse, while it was most useful for cases of cystocele after the child-bearing period. He was sure that all members of the Academy would appreciate the remarks in the Report with regard to the Insurance Act, and its effect on the maternity hospitals.

DR. GIBBON FITZGIBBON said that in the table of prolapse operations there were eight cases; two treated by Wertheim's interposition operation for the condition of cystocele, which was the only condition complained of. He did not see how Wertheim's operation could cure prolapse. There was nothing in it to support the cervix, and when interposition was done for that condition it was accompanied by some form of shortening of the ligaments to the cervix either by Dr. Jellett's method or by Wertheim's original method. He thought that these two cases, at any rate, should not be excluded. With regard to the substitution of argyrol for nitrate of silver, during the three years he was Assistant Master at the Rotunda he did not remember Dr. Crawley ever being called to see an infant with ophthalmia. Although some cases occurred they got well with very little trouble. He considered that nitrate of silver had some

function which did not exist in either argyrol or protargol. His experience with the last two in the treatment of cystitis was most unsatisfactory, and cases that showed no response to them got well rapidly when silver nitrate was substituted.

DR. JELLETT, replying to the remarks, said he thought that Dr. Crawley failed to recognise the fact that he (Dr. Jellett) only referred to the prophylactic use of nitrate of silver. (Dr. Crawley, interrupting, said he fully recognised this.) Continuing, Dr. Jellett said with regard to the bandage on the infant's eye, he did not order such treatment; he ordered bandaging of the non-affected eye in accordance with the teaching of Sir H. Swanzy. He would not for a moment advocate the use of argyrol as a treatment for ophthalmia. As to its being not humane to get the patients up, their experience was that the patients themselves were in favour of it. He thought the proportion of cases in which displacements occurred after labour was too high, and this he attributed to prolonged lying in bed. He was afraid that twelve drops of chloroform would not be sufficient in cases of eclampsia to enable manipulations to be carried out, and he considered that any harm that may be done by giving a sufficient dose is more than counterbalanced by saving the patient unnecessary severe stimulation. He was of opinion that the gynæcological part of the hospital could be carried out to the fullest extent without interfering with the maternity department. As to the Master of the Coombe's remarks he thought more detail could not be given for want of space. Referring to cases of eclampsia the same treatment was carried out as in Dr. Tweedy's time. In dealing with a case of placenta prævia he was of opinion that Cæsarean section would be entirely justifiable if the child was alive, if the placenta was central, and if the mother had not lost much blood. In all other cases Braxton Hick's treatment was the best. The reason for removing the placenta in the case referred to by Dr. Gibson was to enable steps to be taken to stop hæmorrhage from the site of the myoma. He had not much experience of pituitary extract. With reference to Sir William Smyly's inquiry as to accidental hæmorrhage, he said there was practically no case of this kind during the year. As to Dr. FitzGibbon's remarks on the treat-

ment of prolapse, he would like to emphasise the fact that he only regarded Wertheim's interposition as the best treatment for certain cases of prolapse. Cases should be treated as is most suitable in each case, and not by any general method.

Friday, May 31, 1912

THE PRESIDENT in the Chair.

Hæmatocolpos and Hæmatometra from Atresia Vaginalis.

DR. M. J. GIBSON said this specimen was removed from a girl, aged twenty, who was both mentally and physically defective. She could not give a clear account of her symptoms, but it was ascertained that she had suffered from pelvic pains for about four years, and had never menstruated. Examination showed a large tumour occupying the lower abdomen, reaching to the umbilicus. A vagina was not to be seen. Examination by the bowel showed that the tumour filled the pelvis completely. The abdomen was opened, and the tumour removed entire. The patient's convalescence was uneventful. The uterine arteries were not to be seen during the operation. The patient was now in a much better state of health, and her mental condition was improved.

Hæmatocolpos and Hæmatometra from Atresia of the Left Vagina in a case of Double Uterus and Vagina.

DR. M. J. GIBSON said this specimen was removed from a girl, aged nineteen, who had been menstruating regularly since she was fifteen years of age. Fourteen months before operation she began to suffer from sciatica, and twelve months later a tumour was to be felt a little above the pelvic brim. The pain at this time was intense, needing injections of morphine. The patient was then sent to him, and he found that the pelvis was occupied by a tense cystic tumour, at one side of which a small uterus was to be felt. The vulva, vagina, and vaginal portion of the cervix were apparently normal. The tumour was fixed in the pelvis, and was considered to be a pelvic abscess. On opening the abdomen a uterus with only one tube and ovary was to be

seen at the right side of the pelvis, and at the other side, well above the pelvic brim, the left tube and ovary were seen attached to the apex of the tumour. A diagnosis of double uterus and vagina was then made, and the mass was removed entire, leaving the ovary. The patient recovered very well from the operation, and is menstruating normally.

Septic Uterus removed immediately after Cæsarean Section for Sacculation following Ventral Suspension.

DR. M. J. GIBSON said the patient from whom he had removed the specimen first came into the Coombe Hospital two years ago. She was then suffering from rectocele with retroversion and descent of the uterus. She was then aged thirty-two, and had four children. She had one abortion. The treatment was amputation of the cervix, colpoperinæorrhaphy, and ventral suspension. She became pregnant four months afterwards, but aborted at the second month. The ovum was expelled entire, and there was no fever. During her next pregnancy she got on very well until she reached what she considered to be full term. Labour then came on and the membranes ruptured soon after the pains began. Three or four hours after this the pains ceased. The liquor amnii continued to escape, and finally began to smell badly. The labour pains returned twelve days after they had ceased, and she was examined in hospital, when she had apparently been in labour for several hours. The uterus was tightly contracted on the child, the discharge from the vagina was foul, and the patient's condition was not good, her temperature being 100° and her pulse 110. There was no foetal heart. Per vaginam a smooth tumour was felt in the pelvis, but no cervix. An anæsthetic was administered, and with the hand in the vagina it was possible to reach the cervix, which was to be felt high above the sacral promontory. The child could not be felt through the anterior uterine wall. When the abdomen was opened a thin, but very strong, band was found uniting the uterus to the anterior abdominal wall. This was divided, and the uterus brought outside the abdomen. When the abdomen was thoroughly packed off, the uterus was tilted over the symphysis, and a transverse incision across the fundus was made. The child was pressed out of the uterus into a basin. It had evidently been dead for several days. All hope of

saving the uterus had to be abandoned as the cavity was purulent. A hysterectomy was performed and the pelvis drained. The patient was very ill for five weeks after operation, the pelvis and lower end of the wound being infected. The infection was streptococcal, and undoubtedly recovery was assisted by the administration of small doses of vaccine with serum. The ventral suspension had been performed by passing two very fine silk sutures through the peritoneum of the anterior abdominal wall and the anterior surface of the uterus just below the fundus. The wound healed at once without any trouble. He considered that this unfortunate result, although it very rarely occurred, made the operation unsuitable for women during the child-bearing period.

Discussion.

DR. JELLETT said with regard to the second specimen he would regard it as a two-horned uterus, of which one horn appeared to be fairly well developed, and the other to be quite undeveloped. Referring to the third specimen, which he considered a very important one on account of the large number of ventral suspensions that are done, it would be a very serious matter if complications were to be anticipated after such a simple procedure. From what Dr. Gibson had said he (Dr. Jellet) would attribute the condition not to the ventral suspension but to the fact that the woman had a prolapsed uterus, that the posterior ligaments were loose, and that as pregnancy advanced the cervix rose partially into the abdomen, the fundus being in apposition with the abdominal wall. He suggested that in consequence of the rising of the cervix at no time during the pregnancy had any tension come upon the suspension adhesions, which, therefore, neither yielded nor stretched.

DR. CROFTON differed with Dr. Jellet as to the utility of taking cultures from the uterus. Although the case turned out all right, he considered it unscientific to have given anti-streptococcal serum on chance.

DR. SHEILL was in agreement with the Master of the Rotunda in his explanation of what had likely occurred. The specimen struck him as not presenting the appearance expected in a case of sacculated uterus.

DR. GIBSON, in replying to the remarks, said that as regards Dr. Jellet's theory as to the third specimen, the

fact remained that the adhesion to the anterior abdominal wall was so strong that it prevented the uterus from rising properly, and that the anterior wall of the uterus was hypertrophied and very thick. Referring to Dr. Crofton's remarks he said that the pelvic infection was streptococcal.

Some Notes on a Case of Specific Vaginitis.

DRS. LUMSDEN and A. N. HOLMES read papers on a case treated by vaccines which improved considerably, but did not become completely cured until local treatment with lactic acid douching of the vagina was combined with the increasing doses of vaccine.

Vaccines in the Treatment of Puerperal Sepsis.

DR. R. J. ROWLETTE read a paper on this subject. He gave a *résumé* of previous work dealing with the use of vaccines in the treatment of puerperal sepsis. During the first two years vaccines had been employed in 54 cases in the Rotunda Hospital. In 39 of these the treatment had been based on a bacteriological diagnosis. The diagnosis was made from the lochia obtained by Döderlein's tube. Thirty-one of the 39 cases were of streptococcal infection, the remaining 8 of staphylococcal. The doses given were, in the case of streptococci, $2\frac{1}{2}$ to 10 millions; in the case of staphylococci, 20 to 50 millions. Injections were given at intervals of forty-eight hours. The typical result of an injection was a drop in temperature and pulse occurring in from twelve to thirty-six hours. In streptococcal injections better results were got by combining the use of anti-streptococcal serum with that of the vaccine. Three deaths occurred in the streptococcal series. One patient was in advanced phthisis, another was moribund from gangrenous appendicitis when she entered hospital; the third showed considerable improvement under vaccine treatment, but died from an abscess of the lung when the supply of autogenous vaccine had been exhausted. Of the staphylococcal series, one patient died of pyæmia, the result of thrombosis of the ovarian veins. Tables, with full particulars of all the cases, were submitted, and charts were shown illustrating special points. Dr. Rowlette concluded—(1) Vaccines in small doses do no harm in puerperal sepsis; (2) in a large proportion of cases they do good; (3) autogenous are more effective than stock vaccines; (4) anti-streptococcal vaccine

simultaneously increases the effect of streptococcal vaccine; (5) failure in treatment is generally the result of failure in diagnosis.

DR. CROFTON said that the two papers just read furnished good illustrations of the way in which chronic, localised, and acute infections should be treated by specific inoculation. In Dr. Lumsden's and Dr. Holmes's case it was necessary to steadily increase the doses of the vaccines, and unless this method of inoculation were adopted sufficient specific antibodies could not be formed to kill off the infecting microbe. He said that the case also showed the good results to be achieved by the combination of therapeutic inoculation and germicidal drugs. Dr. Rowlette's cases, on the other hand, showed clearly that in acute infections, which were, if at all, but feebly cut off from the system, the desired result could be attained by the inoculation of a few small doses of vaccine. He did not think that after Dr. Rowlette's convincing exposition of the cases any one could deny that their cure was brought about by the vaccines, wherever a suitable serum could be procured, by producing a condition of mixed immunity by giving a mixture of serum and vaccine. This was especially the case where the patient was in a moribund state. He thought that in these cases specific anti-toxic and germicidal drugs might prove helpful. Such drugs were iodides and sulphides in organic combination. These, while practically non-poisonous to the tissue-cells, had the power of turning toxins into toxoids; these latter, while excellent antigen, were non-poisonous. He (Dr. Crofton) was increasingly using the combination of such drugs with vaccine therapy. He suggested the intravenous injection of iodoform in ether in the very bad cases as well as the vaccine. Dr. Rowlette mentioned that he had prepared and prescribed doses of vaccines for cases he had not seen. He (Dr. Crofton) did not think that it was fair either to the vaccine-therapist or to the patient that the functions of the vaccine-therapist should be confined to the laboratory. He thought that the combination of the physician and vaccine-therapist at the bedside would achieve the best results. Finally, he said that the successful results achieved by vaccine-therapy in these cases of puerperal fever made it clear that the same method of treatment could be used without danger, and should be used, in other acute con-

ditions in which the micro-organism could be isolated, such as erysipelas, typhoid fever, &c.

DR. JELLETT said that the Rotunda Hospital had derived much benefit from the work carried out by Dr. Rowlette. He did not think that any one could help deducing from the effects set forth in the paper that a number of patients perhaps owed their lives to the use of vaccines. Clinically he had considerable belief in the efficiency of vaccine treatment. Its use should be started as early as possible and should be continued for at least two injections after the temperature has remained down for two days. The main drawback to the use of vaccines was the difficulty of diagnosis.

DR. M. J. GIBSON said that he had had much assistance from the use of small doses of vaccines together with serum as advised by Dr. Rowlette. His fatal cases had all developed diffuse septic peritonitis. He had tried routine drainage through the posterior fornix in severe cases of uterine sepsis, but found it of very little use. He had freely opened the abdomen in these and other cases as soon as the symptoms of diffuse peritonitis were present, but without success. The repeated uterine douche was useful only in cases of putrid endometritis. In other cases it did more harm than good. The curette was to be considered in only some cases of putrid endometritis, and then only very rarely. In grave cases of uterine sepsis the uterus was practically always empty, and the use of the curette must be very bad treatment. He considered that the use of small doses of vaccines never did any harm, and that this treatment was a valuable addition to the methods of helping a septic patient to overcome her infection.

DR. LUMSDEN, replying to the remarks, said that perhaps he did not sufficiently bring out the point that although the local condition of the patient was not markedly affected by the use of the vaccine the general condition was very largely improved. He referred to the fact that he had been using vaccines largely, in a more or less empirical fashion, and had found that perhaps they were not being pushed to a large enough dose. In cases of local septic infection he had been using large doses, and was getting better results.

DR. ROWLETTE, in reply, referred first to some points in Dr. Lumsden's paper. He had emphasised the great necessity for the application of more than one vaccine in a case

of a double infection. One found the necessity for this in, for example, *acne vulgaris* and gleet. He thought that the case would have been an excellent one in which to have observed by Professor White's method the amount of phagocytosis that the smear of pus would have shown, and if this had been done he considered that more information would have been obtained than by opsonic estimation. Dealing with remarks on his own paper, he said that in the charts shown only the vaccine treatment was entered. In most of the cases there was other treatment, and in some of them that treatment had continued for some time. He agreed that it would have been more complete if the pulse-chart was shown, but the pulse showed a marked parallelism to the temperature. At the time the treatment was begun there was very little information to guide him as to doses, &c. The failures could not be attributed to want of co-operation with the obstetrician in attendance, as frequent consultations were held. With regard to the justification of administering a vaccine on chance he thought that as in these instances they had almost certainly to deal with one of two infections it seemed sound enough to try one or other or both while waiting for a bacteriological diagnosis to be made.

AMERICAN PROCTOLOGIC SOCIETY.

THE Fourteenth Annual Meeting was held at Atlantic City, New Jersey on June 3 and 4, 1912, the President, Dr. John L. Jelks, of Memphis, Tenn., in the Chair. The following Officers were elected for the ensuing year:—President, Louis J. Hirschman, M.D., Detroit, Mich; Vice-President, Alois B. Graham, M.D., Indianapolis, Ind.; Secretary-Treasurer, Lewis H. Adler, Jr., M.D., Philadelphia, Pa; Executive, Council, John L. Jelks, M.D., Memphis, Tenn; Louis J. Hirschman, M.D., Detroit, Mich; J. Rawson Pennington, M.D., Chicago, Ill; Lewis H. Adler, Jr., M.D., Philadelphia, Pa. The place of meeting for 1913 will be Minneapolis, Minn. The exact date and headquarters will be announced later. The following were elected Associate Fellows of the Society:—Dr. Rollin H. Barnes, Metropolitan Buildings St. Louis, Mo.; Dr. Barney J. Dryfuss, 7 W. 91st Street, New York City, N. Y.; Dr. James A. Duncan, 1107 Broadway, Toledo, O.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS

For four weeks ended Saturday, September 7, 1912.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended September 7, 1912, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 13.0 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,154,150. The deaths registered in each of the four weeks ended Saturday, September 7, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to the deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality :—

TOWNS, &c.	Week ending				Aver- age Rate for 4 weeks	TOWNS, &c.	Week ending				Aver- age Rate for week
	Aug. 17	Aug. 24	Aug. 31	Sept. 7			Aug. 17	Aug. 24	Aug. 31	Sept. 7	
22 Town Districts	13.1	14.8	14.9	13.0	13.9	Lisburn -	12.9	4.2	16.8	12.6	11.0
Armagh -	6.9	21.3	14.2	7.1	12.4	Londonderry	2.5	8.9	21.7	11.5	11.2
Ballymena	36.7	27.5	13.7	18.3	24.0	Lurgan -	21.5	8.3	12.5	16.6	14.7
Belfast -	11.1	12.6	12.4	10.9	11.8	Newry -	21.8	8.7	4.4	4.4	9.8
Clonmel -	15.2	15.3	30.6	5.1	16.5	Newtown- ards	22.9	16.3	5.4	5.4	12.3
Cork -	16.3	17.0	17.0	12.9	15.8	Portadown -	4.4	4.4	13.3	17.8	10.0
Drogheda -	12.6	4.2	4.2	8.3	7.3	Queenstown	13.2	6.4	31.8	—	12.9
Dublin - (Reg. Area)	15.3	18.6	15.2	15.0	16.0	Sligo -	14.0	9.3	4.7	4.7	8.2
Dundalk -	11.9	—	15.9	11.9	9.9	Tralee -	—	5.1	—	15.2	5.1
Galway -	7.9	19.7	35.4	11.8	18.7	Waterford -	9.5	11.4	17.1	22.8	15.2
Kilkenny -	9.9	34.7	9.9	14.9	17.3	Wexford -	9.1	9.0	9.0	9.0	9.0
Limerick -	14.9	14.9	29.8	20.3	20.0						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, September 7, 1912, were equal to an annual rate of 1.4 per 1,000—the rates varying from 0.0 in sixteen of the districts to 5.7 in Waterford, the 12 deaths from all causes in that district including 3 from diarrhoea and *enteritis* of children under 2 years of age. Among the 82 deaths from all causes for Belfast are 4 from scarlet fever, one from whooping-cough, and 4 from diarrhoea and *enteritis* under 2 years of age. Included in the 15 deaths from all causes for Limerick are one from scarlet fever and 3 from whooping-cough; and the 4 deaths from all causes for Ballymena include one from measles.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 400,865, that of the City being 306,475, Rathmines 38,495, Pembroke 29,731, Blackrock 9,125, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended September 7 amounted to 276—130 boys and 146 girls—and the deaths to 129—65 males and 64 females.

DEATHS.

The registered deaths, omitting the deaths (numbering 14) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 15.0 per 1,000 of the population. During the thirty-six weeks ending with Saturday, September 7, the death-rate averaged 21.3, and was 0.9 below the mean rate for the corresponding portions of the 10 years 1902–1911.

The total deaths registered, numbering 129, represent an annual rate of 16.8 per 1,000. The annual rate for the past thirty-six weeks was 22.6 per 1,000, and the average annual rate for the corresponding period of the past ten years was 23.3 per 1,000 of the mean population for all deaths registered.

The total deaths from all causes (129 in number) included 3 from whooping-cough, 2 from diphtheria, 2 from influenza,

and 8 from diarrhœa and *enteritis* of children under 2 years of age—the last figure is 2 over the number registered in the preceding weekly period.

In each of the 3 preceding weeks, deaths from diphtheria were 0, 2, and 1; deaths from whooping-cough were 1, 1, and 4; and deaths from diarrhœa and *enteritis* of children were 7, 11, and 6.

There were 23 deaths from tuberculosis. This number includes 18 deaths from pulmonary tuberculosis, 1 death from abdominal tuberculosis, 2 deaths from tubercular meningitis, and 2 deaths from disseminated tuberculosis. In the three preceding weeks, deaths from tuberculosis numbered 17, 35, and 18 respectively.

Broncho-pneumonia caused 7 deaths, and *pneumonia* (type not distinguished) caused 1 death. Organic diseases of the heart caused the deaths of 7 persons, and 10 deaths from bronchitis were recorded.

Cancer caused the deaths of 10 persons.

The death of one infant was ascribed to *convulsions*.

Prematurity caused the deaths of 4 infants, and congenital debility one death.

The 3 deaths from accident or negligence include one death by drowning.

In 4 instances the cause of death was “uncertified,” there having been no medical attendant during the last illness. These cases include the deaths of an infant under one year old, and of 2 persons aged 65 or upwards.

Thirty-four of the persons whose deaths were registered during the week ended September 7 were under 5 years of age (18 being infants under one year, of whom 10 were under one month old), and 27 were aged 65 years or upwards, including 15 persons aged 70 or upwards. The age of one female was stated to be 99 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the “Infectious Diseases (Notification)

Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended September 7, 1912, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) α	Euteric or Typhoid Fever	Erysipelas	Puerperal Fever	Varicella	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis (<i>Phtisis</i>)	Acute Poliomyelitis	Total
City of Dublin	Aug. 17	•	•	18	1	10	-	1	6	4	-	*	•	-	4	•	44
	Aug. 24	•	•	10	-	7	-	1	3	1	-	*	•	-	1	•	29
	Aug. 31	•	*	12	-	12	-	-	4	2	-	*	•	-	12	•	48
	Sept. 7	•	*	20	-	5	-	6	8	3	-	*	•	-	10	•	52
Rathmines and Rathgar Urban District	Aug. 17	•	*	1	-	-	-	-	-	-	-	*	•	•	•	•	1
	Aug. 24	•	*	2	-	2	-	-	1	-	-	*	•	•	•	•	5
	Aug. 31	•	*	-	-	-	-	-	-	-	-	*	•	•	•	•	1
	Sept. 7	•	*	1	-	-	-	-	-	-	-	*	•	•	•	•	1
Pembroke Urban District	Aug. 17	5	-	1	-	2	-	-	-	-	-	-	3	-	-	•	11
	Aug. 24	6	-	3	-	1	-	-	-	-	-	-	5	-	-	•	15
	Aug. 31	2	1	3	-	-	-	-	-	-	-	•	5	-	-	•	11
	Sept. 7	1	-	-	-	-	-	-	1	-	-	-	4	-	-	•	6
Blackrock Urban District	Aug. 17	•	•	-	-	-	-	-	-	-	-	*	•	-	•	•	-
	Aug. 24	•	•	2	-	-	-	-	-	-	-	*	•	-	•	•	2
	Aug. 31	•	•	-	-	-	-	-	-	-	-	*	•	-	•	•	-
	Sept. 7	•	•	1	-	-	-	-	-	-	-	*	•	-	•	•	1
Kingstown Urban District	Aug. 17	*	*	1	-	-	-	-	-	-	-	*	•	•	-	•	1
	Aug. 24	*	•	-	-	-	-	-	-	1	-	*	•	•	-	•	1
	Aug. 31	*	*	-	-	-	-	-	-	-	-	*	•	•	-	•	-
	Sept. 7	*	•	3	-	-	-	-	-	-	-	*	•	•	-	•	3
City of Belfast	Aug. 17	•	*	26	-	5	-	-	3	6	-	•	•	-	5	-	45
	Aug. 24	•	•	14	-	2	1	1	2	5	-	*	•	-	11	-	31
	Aug. 31	•	•	20	-	6	-	1	1	8	-	*	•	-	8	-	44
	Sept. 7	•	•	33	-	9	1	-	1	3	-	*	•	-	10	-	57

α Continued Fever.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended September 7, 1912, 5 cases of measles were admitted to hospital, 5 were discharged, there was one death, and 19 cases remained under treatment at the close of the week. In the three preceding weeks such cases were 33, 32, and 20 respectively.

Eighteen cases of scarlet fever were admitted to hospital, 35 were discharged, and 128 cases remained under treatment at the close of the week. This number is exclusive of 17 convalescent patients who remained under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital, Dublin. At the close of the 3 preceding weeks the cases in hospital were 127, 119, and 145 respectively.

One case of typhus remained under treatment in hospital at the end of the week.

Nine cases of diphtheria were admitted to hospital, there were 2 deaths, and 9 cases were discharged. The cases in hospital, which at the close of the 3 preceding weeks numbered 46, 42, and 47, respectively, were 45 at the close of the week.

Eight cases of enteric fever were admitted to hospital, one case was discharged, and 31 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the 3 preceding weeks being 21, 22, and 24.

In addition to the above-named diseases, 4 cases of pneumonia were admitted to hospital, 3 were discharged, and 13 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, September 7, in 95 large English towns (including London, in which the rate was 11.7) was equal to an average annual death-rate of 11.5 per 1,000 persons living. The average rate for 18 principal towns of Scotland was 12.7 per 1,000, the rate for Glasgow being also 12.7, and that for Edinburgh 13.2.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edin-

burgh with a copy of his Return of Infectious Diseases notified during the week ended September 7. From this Report it appears that of a total of 43 cases notified, 20 were of phthisis, 10 of diphtheria, 9 of scarlet fever, and 4 of erysipelas. Among the 222 cases of infectious disease in hospital at the close of the week were 7 cases of measles, 39 of diphtheria, 63 of phthisis, 78 of scarlet fever, 16 of whooping-cough, 8 of erysipelas, one of puerperal fever, and 3 of enteric fever.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the month of August, 1912.

Mean Height of Barometer, - - -	29.725 inches.
Maximal Height of Barometer (31st, at 9 a.m.),	30.127 „
Minimal Height of Barometer (29th, at 4 a.m.),	29.270 „
Mean Dry-bulb Temperature, - - -	54.1°
Mean Wet-bulb Temperature, - - -	52.3°
Mean Dew-point Temperature, - - -	50.6°
Mean Elastic Force (Tension) of Aqueous Vapour,	.370 inch.
Mean Humidity, - - -	87.9 per cent.
Highest Temperature in Shade (on 16th),	65.9°
Lowest Temperature in Shade (on 2nd),	42.9°
Lowest Temperature on Grass (Radiation) (12th)	40.9°
Mean Amount of Cloud, - - -	70.3 per cent.
Rainfall (on 23 days), - - -	5.277 inches.
Greatest Daily Rainfall (on 4th),	1.456 „
General Directions of Wind, - - -	N.W., W.

Remarks.

The splendid summer-like August of 1911 has been followed by the dull, cold, wet, and generally inclement August of 1912. The mean temperatures of both air and sea have been about 5° below the averages for August, and rain has fallen in immense quantities from leaden skies. Almost throughout the month areas of high atmospheric pressure have been stationary in the Iceland-Greenland region in the north, and between the Azores and the Iberian Peninsula in the south. In the intervening "valley" of barometric pressure depression after depression has passed from the Atlantic across the British Isles

and the North Sea to Scandinavia and the Baltic, occasionally to Central Europe. But the main object of interest in the month from a meteorological standpoint has been the strange aspect of the sky, which first appeared early in July, became more marked in August, and was never absent during the month. The mid-atmosphere has been persistently covered with a haze or filmy stratum of cirriform cloud of varying density. In it no halos have appeared except on the afternoon of August 25th. Through it the sun shone with lessened power and warmth, and the moon assumed a sickly, pallid hue. The blue sky has been replaced by a white or gray sky by day, and the haze dims the sheen of the stars by night. Further, this weird cirriform film has seemed to act as a cloud-compeller and condenser in the lower strata of the atmosphere. The phenomenon may be associated with an unwonted coldness of the sea-water round the shores of the British Isles. In the rain-storm of the 26th the rainfall in East Anglia ranged from 3 to 7 inches in some 12 hours.

In Dublin the arithmetical mean temperature (54.4°) was 5.3° below the average (59.7°), and 8.8° below that of the splendid August of 1911; the mean of the dry-bulb readings at 9 a.m. and 9 p.m. was 54.1° . In the forty-eight years ending with 1912, August was coldest in 1912 (M. T. = 54.4°) and in 1881 (M. T. = 57.0°), and warmest in 1899 (M. T. = 63.4°). In 1911 the M. T. was 63.2° .

The mean height of the barometer was 29.725 inches, or 0.172 inch below the corrected average value for August—namely, 29.897 inches. The mercury rose to 30.127 inches at 9 a.m. of the 31st, and fell to 29.270 inches at 4 a.m. of the 29th. The observed range of atmospheric pressure was, therefore, 0.857 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 54.1° . It was 3.8° below the value for July, 1912. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* \times .47), the mean temperature was also 54.1° , or 5.2° below the average mean temperature for August, calculated in the same way, in the thirty-five years 1871–1905, inclusive (59.3°). The arithmetical mean of the maximal and minimal readings was 54.4° , compared with a thirty-five years' average of 59.7° . On the 16th, the thermometer in the screen rose to 65.9° —wind, S.W.; on the 2nd,

the temperature fell to 42.9° —wind, W. The minimum on the grass was 40.9° on the 12th. August, 1912, has thus established a record for low temperatures.

The rainfall was 5.277 inches on 23 days. The average rainfall for August in the thirty-five years, 1871–1905 inclusive, was 3.240 inches, and the average number of rainy days was 18. The rainfall, therefore, and the rain-days were much above the average. In 1900 the rainfall in August was very large—5.871 inches on 17 days; in 1889, also, 5.747 inches were registered on 22 days. On the other hand, in 1884, only .777 inch was measured on 8 days. August, 1905, established a record for rainfall in this month in Dublin, for the measurement was 7.019 inches on 22 days, 3.436 inches having fallen on the 25th. In 1911 the rainfall was only .869 inch on 15 days.

Fresh winds were noted on 7 days, and attained the force of a gale (8) on the 4th. Temperature never reached 70° in the screen, and on 18 days fell below 50° . A solar halo was seen on the 25th. Thunder occurred on the 7th and 26th, and lightning was seen on the 9th.

The rainfall in Dublin during the eight months ending August 31st amounted to 22.088 inches on 150 days, compared with 11.592 inches on 109 days in 1911, 24.382 inches on 149 days in 1910, 16.677 inches on 119 days in 1909, 17.244 inches on 135 days in 1908, 16.588 inches on 146 days in 1907, 15.425 inches on 139 days in 1906, only 9.455 inches on 96 days during the same period in 1887, and a thirty-five years' average (1871–1905) of 17.950 inches on 131 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, reports that the mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 55.2° . The arithmetical mean of the daily maximal and minimal temperatures was 54.5° , the mean maximum being 60.9° , and the mean minimum 48.1° . The screened thermometers rose to 68° on the 16th, and fell to 42° on the 12th. On the 12th the grass minimum was 36° . Rain fell on 23 days to the amount of 4.86 inches, the greatest fall in 24 hours being 1.41 inch on the 4th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 84.2 hours, of which 8.7 hours occurred on the 5th. The mean

daily duration was 2.7 hours. The mean sub-soil temperatures at 9 a.m. were—at 1 ft., 57.0° ; at 4 ft., 56.4° .

At Ardgillan Castle, Balbriggan, Captain Edward Taylor, D.L., registered 6.21 inches of rain on 21 days, the greatest fall in 24 hours being 2.23 inches on the 4th. The rainfall was 2.70 inches above the average, and the rain-days were 4 in excess. Since January 1, 1912, 24.65 inches of rain have fallen on 139 days, the measurement being 6.05 inches and the rain-days 15 more than the average. The thermometer in the screen rose to 65.9° on the 16th, and fell to 39.6° on the 2nd.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 6.39 inches on 21 days; the heaviest fall in 24 hours was 2.43 inches on the 4th. The mean shade temperature was 53.0° , the extremes being—highest, 66° on the 17th; lowest, 37.5° on the 1st.

At the Ordnance Survey Office, Phoenix Park, rain fell on 25 days to the amount of 5.480 inches, the greatest rainfall in the 24 hours being 1.390 inches on the 4th. The total duration of bright sunshine was 67.2 hours, the greatest daily sunshine being 7.6 hours on the 5th. The thermometer rose to 65.9° in the screen on the 16th, having fallen to 33.0° on the 12th.

Miss C. Violet Kirkpatrick measured 7.91 inches of rain on 23 days at Cheeverstown Convalescent Home, Clondalkin, Co. Dublin, the largest records in 24 hours being 1.83 inches on the 4th, and 1.65 inches on the 26th.

Dr. Christopher Joynt, F.R.C.P.I., recorded a rainfall of 5.220 inches on 22 days at 21 Leeson Park, Dublin. The greatest fall in 24 hours was 1.400 inches, which occurred on the 4th.

Mr. George B. Edmondson reports that at Manor Mill Lodge, Dundrum, Co. Dublin, the rainfall was 6.36 inches on 25 days. The maximal fall in 24 hours was 1.82 inches on the 4th. The mean shade temperature was 54.3° , the range being from 43° on the 2nd and 12th to 69° on the 21st.

Dr. Arthur S. Goff reports that at Lynton, Dundrum, Co. Dublin, rain fell on 30 days to the amount of 6.72 inches, the greatest daily fall being 1.84 inches on the 4th. The shade temperature ranged from 67° on the 16th to 44° on the 12th. The mean temperature in the shade was 55.3° . Thunder occurred on the 25th. There was a hail shower on the 20th.

According to Mrs. Olive F. Symes, at Druid Lodge, Killiney, Co. Dublin, 5.05 inches of rain fell on 22 days. The maximal fall in 24 hours was 1.63 inches on the 4th. The average rainfall at Cloneevin, Killiney, in August of the twenty-four years, 1884-1907, was 3.212 inches on 16.8 days.

Dr. A. J. Blake, Resident Medical Superintendent of the Sanatorium of the Dublin Joint Hospital Board, Crookslings, Brittas, Co. Dublin, recorded a rainfall of 8.69 inches on 24 days. The heaviest fall in 24 hours occurred on the 4th and measured 2.15 inches in the gauge.

According to Dr. J. H. M. Armstrong, at Coolagad, Greystones, Co. Wicklow, the rainfall for August was 8.58 inches on 25 days. The heaviest falls in 24 hours were 1.84 inches on the 25th between 4 and 9 a.m., and 1.71 inches on the 4th. The total fall since January 1 amounts to 37.62 inches on 154 days.

At Fernside, Greystones, Co. Wicklow, Mr. Arthur R. Moore, M.A., B.L., recorded a rainfall of 7.32 inches on 25 days. The greatest measurements in 24 hours were 1.98 inches on the 25th and 1.43 inches on the 4th. The sea temperature at Greystones was only 54.5° on the 21st.

At the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, Dr. Charles D. Hanan, M.B., Resident Medical Officer, reports that rain fell to the amount of 7.29 inches on 18 days, the greatest daily rainfall being 0.97 inch on the 3rd. Hail fell on the 12th. The screened thermometers rose to 65° on the 23rd, and fell to 40° on the 2nd and 4th. The mean maximum temperature was 59.4° , the mean minimum temperature was 47.1° , and the mean temperature was 53.3° .

The Rev. Arthur Wilson, M.A., returns the rainfall at the Rectory, Dunmanway, Co. Cork, as 4.36 inches on 22 days. This rainfall was .24 inch below the average. The largest measurements in 24 hours were .91 inch on the 22nd, and .70 inch on the 19th. At Dunmanway the first half of the month was very cold, but only .60 inch of rain fell on 8 days. The remainder of the month was very damp and unsettled, but not so cold. The average rainfall in August, based on the returns for the last seven years, is 4.60 inches. In 1911, the rainfall to August 31 equalled 33.35 inches; in 1912 it has equalled 41.54 inches.

PERISCOPE.

LITERARY NOTE.

MR. H. K. LEWIS, 136 Gower Street, London, W.C., announces for early publication new editions of "Mind and its Disorders," by Dr. W. H. B. Stoddart, of the Bethlem Royal Hospital; "Clinical Bacteriology and Hæmatology for Practitioners," by W. d'Este Emery, and "Materia Medica and Pharmacy for Medical Students," by Mr. R. R. Bennett, Pharmacist to University College Hospital. Dr. Stoddart has added two chapters dealing with the study of the sub-conscious by psycho-analytic methods, and has revised the work throughout as required by the amount of skilled research in the field of Psychiatry which has been done since the publication of the first edition little more than three years ago. Dr. Emery's book is the fourth edition of his popular handbook, and has been carefully revised throughout. Mr. Bennett's manual has also been thoroughly revised for its second edition. The same firm has in hand a new edition (the sixth) of Dr. Lewis Jones' "Medical Electricity." This will contain several new illustrations, and will be brought thoroughly up to date. A new book on "Isolation" is in preparation by the same author, and will be issued at an early date. Mention may be made of new editions just issued of two well-known books—"The Diseases of Women," by Dr. Lewers (with thirteen coloured plates new in this, the seventh, edition); "The Elements of Practical Medicine," by Dr. Carter, of Birmingham (tenth edition). Copies of these books have been received, and will be given more extended notice in later issues.

LITERARY INTELLIGENCE.

THE following new books are announced for early publication by Messrs. J. & A. Churchill, London, W.C.:—"The Malformations and Congenital Diseases of the Fœtus," by Prof. Dr. R. Birnbaum, Chief Physician to the University Clinic for Women at Göttingen. Translated and annotated by George Blacker, M.D., B.S., F.R.C.P., F.R.C.S., Obstetric

Physician to University College Hospital. With 8 plates and 58 illustrations in the text. "General and Industrial Inorganic Chemistry," by Dr. Ettore Molinari, Professor of Merceology at the Commercial University Luigi Bocconi at Milan. Translated from the Italian by Ernest Feilmann, B.Sc., Ph.D., F.I.C. With 280 woodcuts, 1 chromolithographic plate, and 2 phototype plates. This, the first volume of Prof. Molinari's treatise, is just ready. The second volume dealing with Organic Chemistry, and translated by T. H. Pope, F.I.C., School of Brewing, University of Birmingham, will be published in a few months time. "Digestion and Metabolism. The Physiological and Pathological Chemistry of Nutrition," by Alonzo E. Taylor, M.D.; Rush Professor of Physiological Chemistry, University of Pennsylvania, Philadelphia. "The Evolution of the Vertebrates and their Kin," by William Patten, Ph.D., Prof. of Zoology, Dartmouth College, Hanover, N.H. With 309 Illustrations. "Meat Hygiene, with special consideration of *Ante-mortem* and *Post-mortem* Inspection of Food-producing Animals," by Richard Edelmann, Ph.D., Prof. at the Royal Veterinary High School in Dresden. Translated by John R. Mohler, A.M., V.M.D., Chief of Pathological Division, United States Bureau of Animal Industry; and Adolph Eichhorn, D.V.S., Senior Bacteriologist, Pathological Division, United States Bureau of Animal Industry. With 152 illustrations and 5 coloured plates.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on Thursday, July 25, 1912, the following gentlemen, having passed the requisite Examinations on the 29th of March last, were admitted Fellows:—Bindiganavale Garudachanja Srinivas Acharya, M.B., C.M., Univ., Madras, London, S.E.; Amos Walter Bowman, M.B., Ch.B., Univ., Melbourne, Victoria, Australia; Claude James Brookes, M.B., Ch.B., Univ. St. And., London, W.; William Frederick Buist, M.B., Ch.B., Univ. Edin., L.R.C.S.E. (Triple) Edinburgh; Hamilton Drummond, M.B., Ch.B., Univ. Durh., Newcastle-on-Tyne; Gerhard Friedrich Fismer, M.B., Ch.B., Univ. Edin., Cape Town; Hugo Flecker, M.B., C.M., Univ. Sydney, M.R.C.S. Eng., L.R.C.P.Lond., London;

Davis Heron, M.B., Ch.B., Univ. Edin., Captain, Indian Medical Service; Herbert Hutson, M.B., Ch.B., M.D., Univ. Edin., Edinburgh; John McIntyre, L.R.C.S.E. (Triple Qual.), Glasgow; Satyendra Nath Mukhopadhyay, L.M. & S., Univ. Calcutta, L.R.C.S.E., Calcutta; James Murphy, L.R.C.S.E. (Triple Qual.), Middleton, Co. Cork; William Roberts, M.B., Univ. Toronto, Newfoundland; John Crawford Robertson, M.B., C.M., M.D., Univ. Glasgow., Maryborough, Queensland, Australia; Archer Ryland, M.R.C.S.Eng., L.R.C.P.Lond., London. W.; Neill Campbell Scott, M.B., Ch.B., Univ. Glasgow, Bristol; and George Hulseberg Sinclair, M.B., Ch.B., Univ. Edin., Derby.

PHENOLSULPHONEPHTHALEIN IN THE EXPLORATION OF THE RENAL FUNCTION.

M. GARDNER holds that phenolsulphonephthalein is non-toxic, readily employed, and gives exact results in examination of the function of the kidney. It is administered by the kidneys without decomposition. Already one thousand published cases testify to its helpfulness. The salt was discovered by Ramsen, and studied by Sohon, from a chemical standpoint. It is a bright red crystalline powder, soluble in water, and more so in alcohol. It forms an intense red colour in dilute alkaline solutions, violet in strong alkaline ones; with carbonate of sodium it acts as an acid, forming a definite salt. It is not decomposed by boiling, and produces no toxic effects when given hypodermically or by the mouth. Ten minutes after being swallowed it is found in the urine. Even in advanced nephritis no unpleasant effects follow on its use. The author deals very fully with the time when the elimination of the chemical begins, and the rate at which it is freed from the system. He finds that the less healthy the kidney the longer it takes for the typical colour of the test to appear in the urine, and the more slowly the chemical is excreted. By means of a cystoscope the quicker elimination of the salt by the healthy kidney is readily seen, and the diseased kidney can without any difficulty be recognised.—*Gazette des Hôpitaux*, No. 55. 85-ième Année, pp. 817-823.

MEDICAL EDUCATION AND EXAMINATIONS IN IRELAND.

1912-1913.

MEDICAL students in Ireland, as elsewhere, have in the first instance to choose between University Degrees and Non-University Qualifications or Diplomas. Should they elect to try for a University Degree, their choice must lie between the University of Dublin, which requires a Degree in Arts before registrable Degrees in Medicine, Surgery, and Midwifery are conferred, the National University of Ireland, which—while not requiring an Arts Degree—requires all students to pass a Matriculation Examination in Arts, before a candidate enters upon the curriculum in the three branches of medicine already mentioned—Medicine, Surgery, and Midwifery, and the Queen's University of Belfast, in which also a Matriculation Examination in Arts is required. Under the Regulations of the School of Physic in Ireland (*vide infra*, page 295), considerable Professional Privileges are afforded to medical students in regard to the Arts Curriculum of the University of Dublin.

Outside the Universities, the chief Licensing Bodies are the Royal Colleges of Physicians and Surgeons. The position of the Apothecaries' Hall of Dublin as a Licensing Corporation under the Medical Act of 1886 has been defined by the appointment of Examiners in Surgery by the General Medical Council at the bidding of His Majesty's Privy Council.

The Royal Colleges of Physicians and Surgeons are in a position to give a first-class working qualification in Medicine, Surgery, and Midwifery—a qualification which is registrable under the Medical Acts, which is universally recognised as one of high merit, and the possession of which is attended by no disabilities, such as preventing its possessor from dispensing medicines or keeping open shop for the sale of medicines, if he is legally qualified to do so.

The Medical Schools in Ireland are—(1.) The School of Physic in Ireland, Trinity College, Dublin; (2.) The Schools of Surgery of the Royal College of Surgeons in Ireland (including the Carmichael College of Medicine and the Ledwich School of Medicine); (3.) The University College Medical School, Cecilia-street, Dublin; (4.) The Faculty of Medicine, Queen's University of Belfast; (5.) The School of Medicine, University College, Cork; and (6.) The School of Medicine, University College, Galway.

Facilities for Clinical Instruction in fully-equipped Medico-Chirurgical Hospitals exist in Dublin, Belfast, Cork, and Galway; but, as a rule, the Schools of Medicine in Ireland are not attached to a given hospital, or *vice versá*, as is the case in London and other large centres of medical education. The student will, however, have little difficulty in selecting a hospital, in the wards of which he will receive excellent bedside teaching and have ample opportunity of making himself familiar with the aspect and treatment of disease.

The detailed information which follows is authentic, being taken directly from the published calendars of the respective licensing bodies.

REGULATIONS PRESCRIBED BY THE GENERAL MEDICAL COUNCIL.

With regard to the course of Study and Examinations which persons desirous of qualifying for the Medical Profession shall go through in order that they may become possessed of the requisite knowledge and skill for the efficient practice of the Profession, the General Medical Council have resolved that the following conditions ought to be enforced without exception on *all* who commence their Medical Studies at any time after Jan. 1, 1892:—

(a.) The period of Professional Studies, between the date of Registration as a Medical Student and the date of Final Examination for any Diploma which entitles its bearer to be registered under the *Medical Acts*, must be a period of *boni fide* study during not less than five years. For the purpose of this requirement the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration.

(b.) In every course of Professional study and Examinations, the following subjects must be contained:—

- (I.) Physics, including the Elementary Mechanics of Solids and Fluids, and the Rudiments of Heat, Light, and Electricity.
- (II.) Chemistry, including the principles of the Science, and the details which bear on the study of Medicine.
- (III.) Elementary Biology.
- (IV.) Anatomy.
- (V.) Physiology.
- (VI.) Materia Medica and Pharmacy.
- (VII.) Pathology.
- (VIII.) Pharmacology and Therapeutics.
- (IX.) Medicine, including Medical Anatomy and Clinical Medicine.
- (X.) Surgery, including Surgical Anatomy and Clinical Surgery.
- (XI.) Midwifery, including Diseases peculiar to Women and to New-born Children. [By a recent decision of the General Medical Council the study of (XI.) must not commence till the student has held the posts of Clinical Clerk and Surgical Dresser.]
- (XII.) Theory and Practice of Vaccination.
- (XIII.) Forensic Medicine.
- (XIV.) Hygiene.
- (XV.) Mental Disease.
- (XVI.) Anæsthetics.

The General Medical Council considers that the Regulations of the Examining Bodies should be so framed as to ensure that the study of the Final Group of Subjects (vii to xvi above) shall extend over a period of not less than twenty-four months after the passing of the Examination in Anatomy and Physiology.

The first four of the five years of Medical Study should be passed at a School or Schools of Medicine recognised by any of the Licensing Bodies, provided that the First Year may be passed at a University, or Teaching Institution, recognised by any of the Licensing Bodies and approved by the Council, where the subjects of Physics, Chemistry, and Biology are taught.

A student who has, previous to registration, attended a course or courses of study in one or all of the subjects, Physics, Chemistry, or Biology, in any University, School of Medicine, or Teaching Institution recognised by any of the Licensing Bodies, may without further attendance be admitted to examination in these subjects.

A graduate in Arts or Science of any University recognised by the General Medical Council, who has spent a year in the study of Physics, Chemistry and Biology, and has passed an examination

in these subjects for the degrees in question, is held to have completed the first of the five years of medical study.

Six months instruction or more in the Preliminary Sciences at a Teaching Institution (other than a Medical School) recognised by one of the Licensing Bodies and approved by the COUNCIL may count as six months, and no more, of the Curriculum of Professional Study, provided such instruction is subsequent to the date of passing the required Preliminary Examination in general education.

The Examinations in the Elements of Physics, Chemistry, and Biology should be passed before the beginning of the Second Winter Session.

The General Medical Council considers that no Qualification in Medicine ought to be granted without evidence of Clinical Instruction in Infectious Diseases.

I.

UNIVERSITY OF DUBLIN.

DEGREES AND DIPLOMAS IN MEDICINE, SURGERY, AND MIDWIFERY; AND IN DENTISTRY.

The Medical School of the University of Dublin has for its official title the name of The School of Physic in Ireland. It is officered by University Professors and Examiners and by four King's Professors appointed by the President and Fellows of the Royal College of Physicians of Ireland, acting as Trustees of the Estate of Sir Patrick Dun.

MATRICULATION.

Students cannot be permitted to attend any of the Courses of Instruction in the School of Physic in Ireland until they have Matriculated. There is no special Examination; the Public Entrance and Term Examinations of Trinity College, or any other of the Preliminary Examinations recognised by the General Medical Council, being accepted as equivalent. The Matriculation Fee is Five Shillings. It is not necessary for Students to have their names on the College Books, or to attend any of the Academical duties of the University, unconnected with the School of Physic, unless they desire to obtain a Diploma or Degree in Medicine, Surgery, and Midwifery. Students may matriculate at the commencement of either the Winter or the Summer Session. The 17th of November is the last day of admission to the Winter Session. In the Summer Session the day varies a good deal

according to the time at which Easter occurs, and the Courses of Lectures for which the Student proposes to enter.

WOMEN STUDENTS.

Women Students are now admitted to the Degrees and Diplomas in Medicine, Surgery, and Midwifery, on the same conditions as men. A special Anatomical Department, with separate entrance, dissecting-room, and reading-room, has been erected by the Board of Trinity College for their accommodation.

QUALIFICATIONS.

The Qualifications in Medicine, Surgery, and Midwifery, and in Dental Science, granted by the University are as follow:—

The Degrees are:—

1. Bachelor in Medicine.
2. Bachelor in Surgery.
3. Bachelor in Obstetric Science.
4. Doctor in Medicine.
5. Master in Surgery.
6. Master in Obstetric Science.
7. Bachelor in Dental Science.
8. Master in Dental Science.

The Diplomas are:—

1. Diploma in Public Health (formerly Qualification in State Medicine).
2. Diploma in Medicine.
3. Diploma in Surgery.
4. Diploma in Obstetric Science.

FINAL MEDICAL EXAMINATION.—PART I.

The subjects are—Pathology, Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene.

Before they are admitted to the Examination, Students must have attended the prescribed Courses of Study, passed the Intermediate Medical Examination, Part II., and paid the *Licent* Fee (£5).

Vaccination (Fee, £1 1s.) should be taken out in the fourth year.

FINAL MEDICAL EXAMINATION.—PART II.

The subjects are—(a) Medicine, Clinical Medicine, and Mental Disease; (b) Surgery, Clinical Surgery, Surgical Operations, and

Ophthalmic Surgery; (c) Midwifery and Gynæcology (clinical, papers, and *vivâ voce*).

Candidates for the Final in Surgery will be required to produce a certificate of instruction and practice in the administration of general Anæsthetics.

Students may present themselves for Examination in any of these groups (a), (b) or (c), separately or together, at any of the Examinations during their Fifth Year; but they must leave at least one of these groups until the end of their Fifth Year. Before presenting themselves for any of these groups, Students must have attended all the prescribed Courses of Instruction in the subject in which they present themselves for Examination, and paid the *Liceat* Fee (£5). Candidates in any group who fail to satisfy the Clinical Examiners are not permitted to proceed with the other parts of the Examination in which they have failed.

TOTAL EXPENSES OF THE REQUIRED COURSES.

I. Lectures	..	..	£67	4	0
II. Hospitals	..	..	55	13	0
III. Degrees (M.B., B.Ch., B.A.O.)	..		27	0	0
			<hr/>		
TOTAL			..	£149	17 0

UNIVERSITY DIPLOMAS.

Candidates for the Diplomas in Medicine, Surgery, and Obstetric Science must be matriculated in Medicine, and must have completed two years in Arts, and five years in Medical Studies.

The dates, regulations, and subjects of Examination are the same as for the Degrees.

Diplomates on completing the Course in Arts, and proceeding to the Degree of B.A., may be admitted to the Degree of Bachelor on paying the Degree Fees.

The *Liceat* fees are the same as for the Finals.

Candidates who have completed the prescribed Courses of study and passed all the Examinations will be entitled, if Graduates in Arts, to have conferred on them the Degrees of M.B., B.Ch., B.A.O., on payment to the Senior Proctor of the Degree Fees amounting to £17. A corresponding regulation applies to the Diplomas, the Fees for which are £11. They will also obtain from the Senior Proctor a Diploma entitling them to be entered on the Register of Medical Practitioners under the Medical Act, 1886.

DIPLOMA IN PUBLIC HEALTH OR STATE MEDICINE.

The Diploma in Public Health is conferred, after examination, by the University of Dublin, upon Candidates fulfilling the conditions required by the General Medical Council.

II.

THE NATIONAL UNIVERSITY OF IRELAND.

THE MATRICULATION EXAMINATION.

This Examination will be held in Dublin, and at certain local Centres selected by the Senate.

DEGREES OF M.B., B.CH., AND B.A.O.

Printed Forms of application for admission to any Medical Examination may be had from "The Registrar, The National University of Ireland, Dublin."

Each Candidate must send to the Registrar a printed Form of Application for admission, *accurately filled up and signed by the Candidate*, together with the prescribed fee.

THE M.D. DEGREE.

Candidates may present themselves for the Examination for this Degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of Candidates who shall have obtained a degree of the University in the Faculty of Arts, an interval of two academical years shall be sufficient.

Printed Forms of application for admission to this Examination may be had from "The Registrar, The National University of Ireland, Dublin."

Candidates at this Examination must answer in the following subjects:—

I. Medicine.

II. Pathology.

The Examination in each subject consists of:—

(a) A Written Examination.

(b) *An Oral Examination.*

In addition every Candidate must diagnosticate at the bedside at least three Medical cases, and prescribe treatment. He must also write detailed reports on at least two cases to be selected by the Examiners, and discuss the questions arising thereon.

THE M.CH. DEGREE.

Candidates may present themselves for the Examination for this Degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of Candidates who shall have obtained a degree of the University in the Faculty of Arts, an interval of two academical years shall be sufficient.

Printed Forms of application for admission to this Examination may be had from "The Registrar, The National University of Ireland, Dublin."

Candidates at this Examination must answer in the following subjects :—

- I. Surgery, Theoretical and Practical, including Ophthalmology and Otology.
- II. Surgical Pathology.
- III. Surgical Anatomy and Operative Surgery, with the use of Surgical Instruments and Appliances.

As far as practicable, there will be a Written and an Oral Examination in these branches, and in addition every Candidate will be required to diagnosticate at the bedside at least three Surgical cases, and prescribe treatment. He must also write detailed reports on at least two cases, to be selected by the Examiners, and discuss the questions arising thereon.

 THE M.A.O. DEGREE.

Candidates may present themselves for the Examination for this Degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of Candidates who shall have obtained a degree of the University in the Faculty of Arts, an interval of two academical years shall be sufficient.

Printed forms of application for admission to this Examination may be had from "The Registrar, The National University of Ireland, Dublin."

Candidates at this Examination must answer in the following subjects :—

- I. Midwifery.
- II. Diseases of Women and Children.
- III. Pathology.
- IV. The use of Instruments and Appliances.

The Examination in each subject consists of—

- (a) An Oral Examination, with practical illustrations, including use of instruments and appliances.
 - (b) A Written Examination.
 - (c) A Clinical Examination, as far as practicable.
-

QUALIFICATIONS IN STATE MEDICINE.

This University grants a Diploma in Public Health and a B.Sc. in Public Health. The Diploma may be granted to matriculated students of the University who shall have completed approved courses of study, and shall have passed the prescribed Examination, provided that it shall not be granted except to a Registered Medical Practitioner.

III.

THE QUEEN'S UNIVERSITY OF BELFAST.

DEGREES IN THE FACULTY OF MEDICINE.

STATUTES.

1. There shall be six degrees of the University in the Faculty of Medicine, viz. :—

Bachelor of Medicine (M.B.),
Bachelor of Surgery (B.Ch.),
Bachelor of Obstetrics (B.A.O.),
Doctor of Medicine (M.D.),
Master of Surgery (M.Ch.), and
Master of Obstetrics (M.A.O.).

2. The degrees of M.B., B.Ch., and B.A.O. shall be the primary degrees in the Faculty of Medicine, and shall be conferred at the same time and after the same course of study. No student shall be admitted to the final Examination for these degrees until he has shown (1) that he is a Matriculated Student of the University, (2) that he has completed the prescribed course of study in the Faculty of Medicine extending over a period of not less than five academic years from the date of his registration as a Student of Medicine by the General Council of Medical Education and

Registration of the United Kingdom, and (3) that he has passed the several examinations prescribed.

3. The Senate shall not confer the primary degrees in the Faculty of Medicine upon any person who has not attended in the University during three academic years at least the courses of study prescribed for such degrees. The Senate may accept, for not more than two academic years of the required five, courses of study pursued in any other University or School of Medicine approved by the Senate.

4. Every candidate for the primary degrees in Medicine shall be required to show that he has attained the age of twenty-one years on or before the day of graduation.

5. The degrees of M.D., M.Ch., M.A.O. shall not be conferred, nor shall any of them, until the expiration of at least three academic years or in the case of graduates of the University in Arts or Science, of at least two academic years after admission to the primary degrees in the Faculty of Medicine. Every candidate must show that in the interval he has pursued such courses of study or been engaged in such practical work as may be prescribed. Any of these degrees may be conferred by the Senate either (*a*) after an examination or (*b*) on the submission of a thesis or other evidence of original study or research to be approved by the Faculty of Medicine after an oral or other examination of the candidate on the subject thereof.

THE DEGREE OF DOCTOR OF MEDICINE.

REGULATIONS.

1. The Degree of Doctor of Medicine shall not be conferred until the expiration of at least three academic years, or in the case of graduates of the University in Arts or Science, of at least two academic years after admission to the primary degrees in the Faculty of Medicine. Every candidate must show that in the interval he has pursued such courses of study, or been engaged in such practical work as may be prescribed. This Degree may be conferred by the Senate either (*a*) after an examination, or (*b*) on the submission of a thesis or other evidence of original study or research, to be approved by the Faculty of Medicine after an oral or other examination of the candidate on the subject thereof.

2. The subjects of the examination under (a) shall be :—

The Principles and Practice of Medicine, and one other special subject to be selected by the candidate.

The special subjects shall be as follow :—

- i. Human Anatomy, including Embryology.
- ii. Physiology.
- iii. Pathology
- iv. Pharmacology and Therapeutics.
- v. Sanitary Science and Public Health.
- vi. Forensic Medicine and Toxicology.
- vii. Mental Diseases.

The examination in Medicine shall include :—

- (a) A written paper.
- (b) A commentary upon a selected clinical case or cases.
- (c) A clinical and *vivâ voce* examination.

The examination in the Special Subjects shall include :—

- (a) A written paper.
- (b) A clinical or practical and *vivâ voce* examination.

THE DEGREE OF MASTER OF SURGERY.

REGULATIONS.

1. The Degree of Master in Surgery shall not be conferred until the expiration of at least three academic years, or in the case of graduates of the University in Arts or Science, of at least two academic years after admission to the primary degrees in the Faculty of Medicine. Every candidate must show that in the interval he has pursued such courses of study or been engaged in such practical work as may be prescribed. This Degree may be conferred by the Senate either (a) after an examination, or (b) on the submission of a thesis or other evidence of original study or research, to be approved by the Faculty of Medicine after an oral or other examination of the candidate on the subject thereof.

2. The subjects of the examination under (a) shall be :—

- (1) Surgery, Theoretical and Practical, including Ophthalmology and Otology.
- (2) Surgical Pathology.
- (3) Surgical Anatomy and Operative Surgery, with the use of Surgical Instruments and Appliances.

There shall be both written and oral examinations in these branches, and a clinical examination upon selected surgical cases.

THE DEGREE OF MASTER OF OBSTETRICS.

REGULATIONS.

1. The Degree of Master of Obstetrics shall not be conferred until the expiration of at least three academic years, or in the case of graduates of the University in Arts or Science, of at least two academic years after admission to the primary degrees in the Faculty of Medicine. Every candidate must show that in the interval he has pursued such courses of study or been engaged in such practical work as may be prescribed. This Degree may be conferred by the Senate either (a) after an examination, or (b) on the submission of a thesis or other evidence of original study or research, to be approved by the Faculty of Medicine after an oral or other examination of the candidate on the subject thereof.

2. The subjects of the examination under (a) shall be :—

- (1) Midwifery.
- (2) Diseases of Women and Children.
- (3) Pathology in its special bearing on Midwifery and Diseases of Women and Children.

The examination shall consist of :—

- (1) A written examination.
- (2) A clinical examination.
- (3) An oral examination with practical illustrations, including those of instruments and appliances.

THE DIPLOMA IN PUBLIC HEALTH.

STATUTE.

The Senate may confer Diplomas in Public Health upon legally qualified medical practitioners who have pursued such courses of study and passed such examinations as may be prescribed : Provided always that the Regulations for such study and examinations are in accordance with the rules made from time to time by the General Council of Medical Education and Registration of the United Kingdom.

EXAMINATIONS.

One examination will be held yearly, and will consist of two parts as specified below. Candidates may present themselves for either part separately, or for both parts together at their option.

A pamphlet giving all necessary information regarding entrance, examinations, lectures, fees, scholarships, prizes, &c., may be obtained on application to the Secretary of the University.

IV.

ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

REGULATIONS FOR THE EXAMINATIONS IN MEDICINE,
SURGERY, AND MIDWIFERY REQUIRED FOR REGIS-
TRATION UNDER THE MEDICAL ACT, 1886.

*These Regulations are obligatory on all Candidates commencing their
Studies on or after October 1st, 1902.*

PRELIMINARY EXAMINATION AND REGISTRATION.

The General Medical Council requires that every Candidate shall produce evidence—

- (a) Of having, before entering on medical studies, passed a Preliminary Examination in general education recognised by the General Medical Council; and
- (b) Of having been registered by that Council as a Student in Medicine, according to Regulations, which may be obtained on application at the office of the General Medical Council, 299 Oxford Street, London, W., or its Branches—
Dublin, 35 Dawson Street; Edinburgh, 54 George Square.

Each Candidate before receiving his Diplomas must produce
a Registrar's Certificate, or other satisfactory evidence, that he has attained the age of twenty-one years.

PROFESSIONAL EXAMINATIONS.

Every Candidate is required to pass four Professional Examinations.

Candidates will be admissible to the various Examinations as under:—

First Professional Examination, not earlier than the end of the first winter session.

Second Professional Examination, not earlier than the end of the second winter session.

Third Professional Examination, not earlier than the end of the third year of medical study.

Final Professional Examination, not earlier than the end of the fourth year of medical study ; but it cannot be completed till the end of the fifth year of medical study.

No Candidate shall be admitted to any Examination within three months of his rejection in the subjects of that Examination by this or any other Licensing Body.

FINAL PROFESSIONAL EXAMINATION.

FEES.

* The Fee for this Examination is £6 6s.

The subjects of the Final Professional Examination are :—

Division A.—Medicine, including Fevers, Mental Diseases, and Diseases of Children.

Division B.—Surgery, including Operative Surgery and Ophthalmic Surgery.

Division C.—Midwifery and Gynæcology, Vaccination, and Diseases of New-born Children.

Before admission to the Final Professional Examination, every Candidate must have passed in the subjects of the Third Professional Examination.

Candidates are recommended to present themselves in all the subjects of the Final Examination at one time ; but a Candidate at or after the end of the fourth year may present himself in any one of the Divisions A, B, or C, provided he has completed his Curriculum as far as concerns the Division in which he presents himself. The Examination in at least one of the Divisions must be deferred till the end of the fifth year.

Before completing the Final Examination a Candidate must have passed four years in Medical Studies other than those for the First Professional Examination.

Candidates must have passed in all the subjects of the Final Examination before any Diploma can be granted.

Each Candidate before receiving his Diplomas must produce a Registrar's Certificate, or other satisfactory evidence, that he has attained the age of twenty-one years.

EXEMPTIONS.

Candidates who have passed in any of the required subjects at Examinations conducted by any Licensing Body recognised by the Royal College of Physicians and the Royal College of Surgeons may, at the discretion of the Committee of Management, be exempted from further examination in such subjects under these regulations.

REGULATIONS FOR CANDIDATES FOR THE DIPLOMA IN PUBLIC HEALTH.

Stated Examinations for the Diploma in Public Health commence on the first Monday of the months of February, May, July, and November.

A special Examination for the Diploma may, at the discretion of the Committee of Management, be obtained—except during the months of August and September—on application at least one fortnight before the date of the proposed Examination, and payment of £15 15s. in addition to the ordinary Fees mentioned below.

Every Candidate for the Diploma in Public Health must be a Registered Medical Practitioner. He must return his name to the Secretary of the Committee of Management under the Conjoint Scheme, Royal College of Physicians, Dublin, one fortnight before the Examination, and lodge with him a Testimonial of Character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh, together with certificates of the prescribed course of study.

Candidates registered as Medical Practitioners or entitled to be so registered after January 1st, 1890, must comply with certain Resolutions and Rules, adopted by the General Medical Council.

The Fee for the Examination is Ten Guineas, which must be lodged in the Ulster Bank, Dublin, to the credit of the Committee of Management. Fees are not returned to any Candidate who withdraws from, or is rejected at, any Examination. The Fee for re-examination is Five Guineas.

The Examination for the Diploma in Public Health comprises the following subjects:—Chemistry and Physics, Engineering and Architecture, Meteorology, Sanitary Law, Vital Statistics, Hygiene, Bacteriology.

V.

APOTHECARIES' HALL IN IRELAND.

The First, Second, and Third Professional Examinations are held four times a year—viz., commencing the first Monday in January, April, July, and October.

The Final Examinations are held quarterly.

The Fees payable for each Examination are as follow :—

First Professional	-	-	£5	5	0
Second „	-	-	5	5	0
Third „	-	-	5	5	0
Final Examination	-	-	6	6	0

A Candidate is allowed for each Professional Examination which he has completed at any other Licensing Body, except the Final.

Ladies who comply with the regulations will be admitted to these examinations.

Candidates may be admitted to a Special Examination, under special circumstances, which must be laid before the Examination Committee. If the Candidate's application be granted, an extra fee of Ten Guineas over and above the full fee is required.

Candidates already on the Register will receive the Diploma of the Hall, on passing an Examination in the subjects which are not covered by their previous qualifications, and on paying a fee of Ten Guineas. If Medicine or Surgery is required, additional fees will be charged.

Each Candidate, before receiving his Diploma, must produce evidence that he has attained the age of twenty-one years.

Licentiates of this Hall are entitled to enter as Candidates for the Fellowship of the Edinburgh Royal College of Surgeons.

All information relative to the Examinations may be obtained from the Registrar of the Apothecaries' Hall, 40 Mary Street, Dublin.

VI.

DENTAL EDUCATION AND EXAMINATIONS IN IRELAND.

UNIVERSITY OF DUBLIN.

DEGREES IN DENTAL SCIENCE.

Combined Arts and Dental Curriculum.

The University of Dublin grants the degrees of Bachelor and Master in Dental Science.

Either of these qualifications entitles the holder to be registered as a licensed Dental Practitioner.

In order to obtain the Degree of Bachelor (B. Dent. Sc.), Candidates must have completed the course for the Arts Degree (B.A.) of the University and have spent at least four years in the School of Dentistry. The Degree of Master in Dental Science (M. Dent. Sc.) is awarded after a further examination, and cannot be taken until the end of a fifth year of study.

The Dental and Arts Courses may be taken separately or concurrently.

The Degree of Bachelor in Dental Science is conferred on Students who have completed the above Courses and Examinations, and passed the B.A. Degree Examination in Ethics and English Composition.

The total fees in order to obtain the degree of Bachelor in Dental Science are :—

Entrance fee and Arts fees (4 years)	£84	10	0
Lecture, Laboratory, and Hospital fees	180	12	0
Examination fee	5	0	0
Fee for Degree	10	0	0
	<hr/>		
	£280	2	0

MASTER IN DENTAL SCIENCE.

Candidates for the Degree of Master in Dental Science must be Bachelors in Dental Science of at least one year's standing. They will be required to pass an examination in Pathology and Bacteriology, and either to carry out Dental work of an advanced character to the satisfaction of the Examiners, or to present a thesis to be approved of by them, giving evidence of original research on some subject connected with Dentistry.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

DIPLOMA IN DENTAL SURGERY.

The Royal College of Surgeons in Ireland grants Diplomas in Dental Surgery under revised conditions adopted by the Council on November 25, 1909, of which the following is a synopsis :—

The Candidate must be twenty-one years of age before being granted the Diploma.

The Candidate must have passed three Examinations.

1. Preliminary (identical with the Medical Preliminary).

2. First Dental. (This Examination is much the same as the Second Conjoint Professional.)

3. Final Dental Examination. Candidates are examined in General Pathology, Medicine and Surgery; Dental Surgery, and Dental Pathology, with the *Materia Medica* and Therapeutics applicable to Dental Surgery; Dental Mechanics and Metallurgy; Orthodontia.

Large reductions in the Special Certificates required are made in the cases of qualified Medical Practitioners.^a

As regards Dental Hospital practice, full information is contained in the Calendar for 1911-12 of the School of Dentistry in connection with the Incorporated Dental Hospital of Ireland, Lincoln Place, Dublin. The Calendar may be obtained on application to the Dean.

^a Fuller particulars can be obtained by application to the Registrar, Royal College of Surgeons, St. Stephen's Green, Dublin.

SYCOSIS.

DR. CH. SABATIÉ, of Paris (*Le Progrès Médical*, December 30, 1911), writes that the treatment of this skin affection varies according to the stage of the disease—when there is production of pus in the hair follicle or when dermatitis is present. In case of suppuration of the hair follicles the hairs must be cut as short as possible, and the skin must be rendered aseptic, either by antiseptic lotions (Alibour water, resorcin, &c.), by steam douches, or by aseptic or weak antiseptic dressings (boiled water, borax, &c.) applied day and night, and renewed at least five times during the day. When the inflammation is very deep in the follicle, epilation, galvano-cauterisation, or radiotherapy must be resorted to; this must be done at one sitting, and repeated, if necessary, three or four weeks later. When dermatitis is present, antiseptic ointments of dermatol, salicylic acid, resorcin, or precipitated sulphur are generally successful. The general treatment should never be neglected, and must be directed against local causes (hygiene of the beard, antiseptic lotions, or ointments, and even epilation of the nares) and against general causes. (The general and dietetic treatment is then quite advisable, or in chronic cases spa treatment at Uriage, Luchon, or Marlioz.) When suppuration is the main symptom Wright's antistaphylococcic serums may be tried with success.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

NOVEMBER 1, 1912.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XI.—*Report on the Surgery of the Peritoneum.*^a By
H. MACNAUGHTON-JONES, M.D., M.Ch., M.A.O., Q.U.I.,
F.R.C.S.I. & Ed. ; Formerly University Professor in the
Queen's University of Ireland.

IN venturing to undertake the duty of *raconteur* for Great Britain and Ireland, to this Congress, on the important subject of the Surgery of the Peritoneum, I must trust to the considerate indulgence of my colleagues. That subject covers so vast a field of all the essential elements of obstetrical and gynaecological surgery, and embraces so large a number of vital points in operative technique, that it is not possible to do more than the barest justice to it in such a short summary as I present to the Congress. The Report is based on the lines of the communication made by the President of the Congress—*Ueber die peritoneale Wundbehandlung*. Was verträgt das Peritoneum, was nicht ?^b

^a Reprint from the *Verhandlungen des VI. Internationalen Kongresses für Geburtshülfe und Gynäkologie*, Berlin, 9–13 September, 1912. [This Report appeared also in the *Lancet* for October 19, 1912].

^b Reprint from the *Monatsschrift f. Geburtshülfe u. Gynäkologie* Band XXXIV., Heft. 2, 1911.

That thesis enters into the various sources of irritation of the peritoneum, whether mechanical, chemical, or from organic fluids, and those morbid processes due to the presence of micro-organisms. Such considerations must necessarily include every preventive precaution taken from the previous preparation of the patient, to the end of the abdominal toilet, and her immediate subsequent management. It embraces operator, assistants of all kinds, the character and preparatory treatment of all the material employed, the most perfect method of sterilisation, the influence on technique of pre-existing septic or suppurative conditions, and the best method of preventing evil consequences from these.

With the object of eliciting the views of a number of the leading gynæcologists throughout the United Kingdom. I circulated a series of questions, so as to ascertain what are their present practices and opinions, mainly on the following points :—

1. The antecedent conditions, pathological and clinical, which predispose to peritonitis, and the prophylactic measures adopted in the event of their presence.

2. The steps taken before and at the time of operation to secure, as far as possible, ideal asepsis.

3. Views as regards moist or dry treatment of the peritoneum during operation ; the resort to lavage, the tamponade, and drainage ; also the treatment by camphorated oil.

4. The materials used for sutures and ligatures.

5. There was also inquiry as to any researches into the relative frequency with which various germs were found in secretions or exudations, as also the relation of gonorrhœa to peritonitis.

6. Information was further invited as to the spread of infection of septic patients after operation, and the preventive measures adopted in the presence of premonitory symptoms or signs of peritonitis.

7. Lastly, opinions were asked with regard to the use of vaccines.

With the object of making the report as widely representative as possible, I sent these queries to some fifty representatives of all the London teaching schools and special hospitals, and to the various provincial universities in England, Scotland and Ireland, as well as to several gynæcologists of the larger general and special hospitals in the provinces.

The Report includes the substance of the replies from some seventy (71) representative teachers and surgeons.^a

The bearing of this Report is on gynæcological rather than obstetrical procedures, though where operative interference is contemplated or carried out, the principles involved apply equally to both.

We may divide the subject into these heads :—

1. The conditions, pathological and clinical, which predispose the peritoneum during operative interference to infection and inflammation, and the prophylactic measures best calculated to prevent or combat such.

2. Antecedent to and during an operation, what are the most efficient means of preventing infection or irritation of the peritoneum ? This necessarily demands a decision as to the most perfect technique under the various conditions in which the peritoneal cavity has to be opened, from either the abdominal or the vaginal side. Here we have to include reference to drainage, the tamponade, and the materials employed during an operation.

3. In the face of exceptional risk to the peritoneum, or when there are premonitory symptoms of peritonitis following an operation, what are the most active and reliable means at our command for subduing it ?

4. How far have bacteriological researches into the nature of the micro-organisms which are present during or after an interference with the peritoneum thrown light on antiseptic measures, and the value of vaccines or serum as prophylactics ?

Incidentally, the discussion on the second and third of these heads involves exceptional conditions such as arise

^a For the names of contributors to this Report, see p. 400.

when we are dealing with the complications of extra-uterine fœtation the presence of large pus cavities, irritative or infective cyst contents, hamatoceles, uncontrollable hæmorrhage, malignant states, and where the bladder or the bowel, through injury or pre-existing fistulæ, opens into the operative area.

I propose in the first instance to give in abstract a summary of the conclusions which I have epitomised from the replies which I have received. I cannot sufficiently express my thanks to these surgeons for the trouble they have taken to answer—in many cases exhaustively—my queries. The list of these authorities is given at page 400.

I. Predisposing Causes of Infection and Inflammation, and Prophylactic Measures.—I divide these under three heads:—

- (a) General constitutional conditions.
- (b) Local complications existing before operation ; and
- (c) Those causes which are the direct result of the operation itself.

Among the first are anæmia, previous severe hæmorrhages, tuberculosis, leucocytosis, alcoholism, organic renal disease, diabetes, and influenza.

Included in the second are gonorrhœal infection, tuberculosis, appendical complications, extensive adhesions, fistulous communications with bowel and bladder, fæcal concretions in the intestine, cancer of the genitalia, escape of fluid from dermoid cysts, ruptured tubal gestation, torsion of the pedicle.

In the third group—those which arise during operation—we include rough handling and exposure of bowel ; injuries to the bowel and bladder ; want of care in the separation of adhesions ; neglect of careful isolation of infected areas and pus cavities ; defective peritonisation and covering of stump ends ; too violent swabbing ; the use of irritating antiseptics ; absence of drainage where such is indispensable ; defective hæmostasis, too protracted operation, and, *overshadowing all, defective asepsis.*

The second division of the subject really resolves itself

into the steps taken prior to, during the performance of, and immediately following an operation to prevent infection or irritation of the peritoneum.

Prior to Operation.—On the following points there is a general consensus of opinion, and virtually of practice.

(a) Postponement of operation, in the face of local septic conditions, extreme anæmia, and prolonged hæmorrhage.

(b) Special attention directed to the condition of the mouth, nose, and throat of the patient.

(c) Thorough evacuation of the bowel, and determination of the quantity and constitution of the urine.

Preliminary Local Treatment.—When possible, complete sterilisation of the vulva, introitus and vagina for some days previously by scrubbing, douching, and antiseptic tampon. In carcinoma of the cervix, in addition, cauterisation with curetting. In those cases where the condition is unfavourable for a complete or radical operation, Mr. Childe (Portsmouth) has the vagina scrubbed with biniodide of mercury for a week previously, all growths curetted away, and the cautery applied, with daily irrigation of the vagina with the biniodide.

ESSENTIALS FOR ASEPSIS.

We now approach the consideration of all those details which have to be included in a perfect aseptic operation, in which the peritoneum is attacked; these embrace the steps taken before, during, and after the operation. I may first summarise those precautions which are practically universally adopted throughout the United Kingdom. Before doing so I may interpolate that the bactericides which are most generally employed—in the relative order of frequency—are: biniodide of mercury (1 in 500 to 1 in 2,000) either with or without ether, alcohol, rectified or methylated spirit; perchloride of mercury (1 in 500 to 1 in 10,000) with or without ether, alcohol or methylated spirit; “*sublamin*” (various strengths); iodine in solution, and tincture of iodine (in varying strengths); acetone with ether; turpentine; carbolic acid; lysol; formalin;

lysoform ; ethylene dichloride ; permanganate of potassium and oxalic acid. Of these, *for inside the peritoneum*, biniodide of mercury is the one principally employed.

For the hands of the operator, or for use during the operation, biniodide of mercury is also most favoured ; sublamin and the perchloride of mercury come next. Some prefer the permanganate of potassium and oxalic acid process for the hands. Iodine, after previous careful preparation of the abdomen, holds first place for *the sterilisation of the patient's skin*. Others combine the use of acetone, biniodide, or ethylene dichloride previous to the application of the iodine, while a few use both turpentine and carbolic acid or lysol previous to its application.

Hastings Tweedy, after previous sterilisation with ether and biniodide in spirit, finally paints the skin with a saturated solution of picric acid in spirit, which he says "hardens and cornifies the epithelium, and locks the bacteria into the depths of the skin." This he has used for years instead of iodine.

Whatever plan is followed, the skin of the patient is previously prepared, in some instances for days beforehand, by baths, repeated washing with ether soap, packs of perchloride or biniodide, and the iodine application is made some time before, and again at the time of operation.

All British operators are practically unanimous in the adoption of certain rules—the use of caps and masks ; complete isolation of the operative area, with protection of the wound margins ; limitation of any possible source of infection ; gentleness in the separation of adhesions, the avoidance of bowel handling, and the exclusion of any irritating antiseptics inside the peritoneal cavity ; the employment of normal sterilised saline serum for wiping and cleansing ; scrupulous attention to hæmostasis ; the use of sterilised rubber gloves, which are changed when required through any suspicious soiling ; the retention of instruments in mild antiseptic solution during operation ; their re-duplication or re-sterilisation by boiling if neces-

sary ; repeated ablution of the operator's and assistant's hands in sterile water, with or without a disinfectant (such as 1 in 2,000 of biniodide of mercury ; carbolic, 1 in 40 ; lysoform, 1 in 100, or weak lysol, a final soaking in perchloride or biniodide with alcohol). In addition to these preventives there are the usual stringent rules regarding cleanliness of the operator's person, and these are extended to *all* who are permitted to take any active part in the operation.

Touching on *special prophylactic measures*—(a) *in anæmic states, and when vitality has been greatly lowered*, the exhibition of strychnine before operation ; the preliminary use of artificial serum, alone or with glucose ; caution in the use of purgatives ; a leucocytic test ; prophylactic doses of polyvalent serum ; (b) *in suppurative conditions or where there is a local septic collection*, vaccine therapy ; autogenous if possible. (c) Of primary importance is *close attention to the bowel*, and where there has been chronic constipation, the removal of all faecal masses, and the excitation of intestinal peristalsis by such means as the subcutaneous use of eserine and pituitary extract. *In diabetic conditions*, postponement of operation and preliminary anti-diabetic treatment.

Dr. Balfour Marshall (Glasgow) reports that the use of bismuth sub-nitrate (20 grs.) with salol (5 grs.) given three times daily before food, prevents flatus.

Emphasis is laid on such *celerity in operating* as is *compatible with completeness of technique and efficient hæmostasis*. The great majority of operators use swabs of sterilised gauze wrung out of warm sterilised water, or normal saline, for cleansing and mopping out surfaces, and the same material is used for packing off the intestines, and isolating pus cavities. A few prefer natural sponge for cleansing.

Dry or Moist Treatment of the Peritoneum.—As to whether dry or moist treatment of the peritoneum has been followed, over two-thirds of those who replied to this question were in favour of dry. Many use moist mops

wrung out of warm saline in the first instance, and then the peritoneum is finally wiped dry.

A separate reference must be made to lavage, the tamponade and drainage.

LAVAGE.

With regard to *lavage*, there is, generally, an obvious disinclination, save under exceptional circumstances, to resort to it. Over two-thirds of those who have replied to my question as to its use, only very seldom employ it; the remaining third never resort to it. Only a few speak strongly in favour of its general use.

The exceptional complications assigned for its employment are :—

1. When a quantity of blood or clots remain.
2. When there has been much handling and the peritoneum has been soiled.
3. For the removal of the contents of ruptured cysts that have escaped.
4. After bleeding in ectopic cases, and in tubal hæmatocele.
5. When dermoid fluid escapes.
6. In amniotic soiling (Lockyer).
7. When there has been a dissemination of septic matter, and in acute septic peritonitis

On the other hand, some surgeons are entirely averse to its use in septic cases, and employ it only when the abscess sac is completely shut off

Many resort to it in anticipation or the threatening of shock, when much blood has been lost, and in anæmic cases. *Normal sterile saline* is nearly always employed, and several surgeons leave a quantity of this fluid in the abdominal cavity at the close of the operation.

The Use of the Tamponade.—We have a greater diversity of opinion as to the effects and utility of this procedure. By the great majority of surgeons, it is seldom used. Some are distinctly averse to its employment, and only a comparative few speak very favourably of it. The con-

ditions which are set forth as indicating the tamponade are :—

1. General and uncontrollable oozing.
2. Deep hæmorrhage in the pelvic cavity.
3. Where there has been extensive soiling from dermoid contents or escape of pus, or destruction of the peritoneum.
4. Advanced ectopic gestation.
5. Hæmatocele.
6. To cover raw surfaces and protect loops of intestine.
7. To shut off infected areas.

It acts (Fothergill) by setting up a plastic exudation which shuts the tampon off. This localised peritonitis offers one of the objections to its use. Adhesions are apt to form, and if it be retained too long, there is difficulty in its removal, and irritation of the peritoneum. Consequently, some advise that the period of retention should not exceed twenty-four hours, or at the most forty-eight. There can be little doubt that, as insisted on by Dr Eden, the tamponade is often necessitated by a faulty technique, or some mishap in the operation, and that it does interfere (Fothergill) with the normal function of the peritoneum. It should never be used as a drain. Some, when they resort to it, make a counter opening through either the abdominal wall or the vagina (Aldrich Blake).

It must be admitted that it may, and does occasionally, act as a source of irritation to the peritoneum, has a tendency to arrest the peristalsis of the bowel, to create flatulence, and to cause vomiting. Some employ it only when draining the pelvis per vaginam ; many object to it altogether, and if forced to use any pressure, prefer the Miculiz drain. They reserve its use for below the pelvic brim, and the tight packing of Douglas (Jellett). After its removal in thirty-six hours, the tampon is replaced by a rubber tube.

As to the material for tamponade, the majority use plain sterilised gauze ; others, iodoform, or bismuth gauze (Eden). Campbell (Belfast) surrounds the gauze with

waterproof cambric to facilitate removal, and, like others, combines a rubber tube with the gauze. Herbert Spencer in special cases, such as where a tumour has caused an opening into the bowel, uses a tampon of iodoform gauze which is not removed for at least eight days ; he never has had any severe toxic effects.

DRAINAGE.

There is a general agreement as to the value of drainage under certain conditions, but (as in the case of the tampon) with earlier operations, the results of a more accurate diagnosis, and a more improved technique combined with perfect asepsis, the conditions which call for drainage are now so seldom met with that the need for it becomes less and less.

The feeling of most surgeons is perhaps thus expressed :—

Drainage involves a risk never to be run unless it be unavoidable, and this contingency should almost never happen in a thoroughly aseptic operation. Still, there are occasions when the drain is advisable, and, at times indispensable ; such are the following :

(a) When oozing continues, and further prolongation of the operation is fraught with danger, or where there is an uncertainty as to hæmostasis, or efficient ligation.

(b) When there has been an escape of pus or septic matter, which it has been difficult or impossible to isolate or limit to the pus cavity or infected area ; or where portion of an abscess sac is left—*i.e.*, in some cases of ectopic gestation.

(c) When the bowel or bladder has been seriously injured, and there is danger of contamination.

(d) In some ascitic cases, and where suspicious contents of dermoid or other cysts have been spilt.

(e) In acute general peritonitis of a septic character.

(f) In some infectious appendical complications, where there has been a septic abscess or rupture of the bowel.

(g) In some cases of myomectomy in which the peri-

toneum has been roughly handled, and there is contamination from septic surroundings.

(b) In infection from carcinoma where Wertheim's operation is performed, and in other cases of total hysterectomy.

As to the nature and direction of the drainage, this is affected either by rubber (rarely glass) generally perforated, and large enough to contain a loose strip or ribbon of iodoform or sterile gauze ; at times gauze or rubber drain alone. As pointed out by some surgeons, gauze may become a plug, rather than a drain. While it is suitable for serum and blood, the rubber tube, encircled in iodoform gauze, or containing the strip of gauze as mentioned, is also preferable for pus.

S. J. Cameron emphasises the fact that gauze is dangerous if there be loops of adherent bowel in the pelvic cavity. Miss M'Iroy uses a perforated rubber tube which has a funnel end ; the tube is carried from the abdominal wound into the vagina, and is useful in acute infective conditions, for subsequent lavage of the whole pelvis, by saline solution ; this is carried out every six hours. In certain cases of septic peritonitis, Haig Ferguson makes a lateral opening in the abdominal wall, and employs a cigarette drain. Others, under these conditions drain through the flank, and Furneaux Jordan carries a loose gauze drain through the vagina. Drummond Maxwell always drains in the presence of broad ligament cellulitis, with attendant perimetritis.

Obviously the direction of the drainage must depend on the character and needs of the individual case. It may, however, be taken as a general rule that in all septic cases the route of election is by the vagina, and through Douglas's pouch. In other instances, the supra-pubic end of the wound is the favoured position, and the tube or gauze is carried to the bottom of the pelvis.

The adoption of the semi-recumbent or Fowler's position adds greatly to the efficacy of the drain, especially if the latter be accompanied by proctoclysis.

Drummond Maxwell lays special emphasis on the advantage of draining through the posterior fornix by opening into the pouch of Douglas, and drawing the gauze down into the vagina. He thus separates and protects the healthy annexa of one side during the removal of a diseased tube or ovary from the other.

Balfour Marshall (Glasgow), on the other hand, packs the pelvis with gauze, closes the abdominal opening, and completes the toilet. He then places the patient in the lithotomy position, thoroughly disinfects the vagina, and makes an incision with scissors through the posterior fornix, drawing the gauze into the vagina, which is further packed with gauze. The pelvic gauze is not disturbed until the third day, and then, day by day, a portion is drawn into the vagina, until between the fifth and seventh days all is removed.

The late Stanmore Bishop passed a large tube into Douglas through a supra-pubic stab, and used it for washing out during an operation.

LIGATURES AND SUTURES.

Inquiry as to the material used for ligatures and sutures, and the reasons for preference of one kind over the other, shows that for intra-peritoneal work, as also for closing the peritoneum, the choice is divided between catgut (whether iodised, chromic, sulpho-chromic, or cumol, prepared in different ways), and silk sterilised by boiling, or linen and celloidin thread, both also sterilised by boiling. All the latter are kept in various antiseptic solutions, and re-boiled before use. For closing fascia, catgut is principally used; for through and through sutures, and for closing the skin, silkworm gut which has been boiled. The great majority use silk for ligatures of large vessels and pedicles, and catgut for suturing. Others prefer linen or celloidin thread to silk, but the latter is mainly used for suture of the intestine. Where there is pus present, catgut is preferred. Some surgeons—a

minority—use catgut only for all purposes, and some—fewer still—silk or linen thread. Whatever material be used, it is, as a rule, passed through a long and exhaustive process of sterilisation beforehand. Catgut, finally prepared by the iodised process, appears to be the favourite material.

Herbert Spencer emphasises the fact that he never uses catgut, contending that sooner or later it will cause tetanus.

The better biting powers and security of silk or thread is the reason generally assigned for its employment. The dislike to bury any non-absorbable material within the peritoneal cavity, or where pus has been present, is assigned as the reason for the preference for catgut. Van Horn's thirty-day gut is used by different operators.

PERSONAL PRACTICE.

I should like here briefly to summarise what has been for several years my own practice with regard to the points touched upon in this part of the Report. I have nothing to add to what I have already said as to the predisposing causes of infection and inflammation, nor indeed, of the prophylactic measures indicated when there are premonitory signs or symptoms of peritonitis present. I believe emphatically in postponement of operation, rest in bed, thorough evacuation and cleansing of the lower bowel, repeated sterilisation of the external genitalia and vagina, evacuation of localised purulent collections, and using every means in cases of anæmia and lowered vitality to resuscitate and restore the vital power of the patient. I am in the habit of administering to the patient before operation (the night before and the morning of) scopolamine (1/100 gr.) — morphine ($\frac{1}{6}$) and an hour previous to the actual operation, an injection of atropine and strychnine. I believe that the soporific and calmative effect of the scopolamine-morphine is most beneficial both before and immediately after operation, and in my experience, it lessens

the tendency to sickness and the unpleasant retching which follows the chloroform. This is especially so if the chloroform be administered by a Harcourt's Regulator, so that the quantity given is known all through the operation and is reduced to the minimum amount required—as a rule 0.5 to 1 p. Ct.

The preparation of the patient, and the sterilisation of the abdomen, are carried out on the lines already indicated. But in the instance of the vagina (which has been previously douched with mercurial or formalin, and tamponed with chinosol) it is finally scrubbed with izal soap, and fibre sponge (Holzwolle), and, lastly, it is mopped out several times with gauze on sponge-holders wet with 1 in 1,000 perchloride of mercury in alcohol. The same kind of sponge is used for the final scrubbing of the abdomen, with izal soap. The skin is then thoroughly rubbed with alcohol and perchloride, next washed over with liquid "Opsopon" soap, and, lastly, rubbed with ether. Once the peritoneum is opened, its edges are not again interfered with, as these are secured by my metal clips, to which wire, with small weights at the end, are attached. These hang over the sides of the abdomen under the sterilised coverings that surround the wound. All swabbing is done with clamp forceps, with wipes or mops, wrung out of sterilised water, or 1 in 2,000 of formalin. There is no rough handling or wiping of the peritoneum, from first to last. Soiled surfaces are always carefully but gently cleaned. All hands are repeatedly re-washed in running lysoform. Personally, I use gloves only in septic cases, or in any examination or preparation of the patient. The assistants and nurses wear them. Instruments are duplicated or re-boiled when necessary.

I rarely use any silk. The catgut I employ is of two kinds, one is prepared by Bergmann's method (juniper oil, perchloride of mercury, and alcohol). It has undergone repeated changes on reels for some six months at least before use. It is taken direct from its solution.

It is of seven different sizes, and the strongest strands

are used for pedicles, and for some ligatures ; also for fascia and the recti sutures. The other gut I use is Krönig's Cumol (Dronke of Köln) taken direct from the boxes, and placed in weak formalin solution at the time of operation. I use it to ligature fine vessels, for all over-sewing, and closure of the peritoneum. Sometimes I use Van Horn's twenty to thirty-day gut, but this is mainly in vaginal operations.

The skin, as a rule, is closed with Michel's clips fortified, if need be, by "Celloidinzwirn," which has been previously boiled and taken out of formalin solution.

I use lavage very rarely, and only under the conditions already mentioned. I prefer any delay compatible with the patient's safety, in order to secure perfect hæmostasis and stoppage of any oozing, to the employment of the tamponade. Only when it is unavoidable do I use a drain, as for instance where there has been much escape of septic pus, soiling from ascitic fluid and cyst contents, or when there is a prospective risk of hæmorrhage. The character and direction of the drain is determined by the individual circumstances of the case.

As a rule I prefer for the abdominal drain the rubber tube, with or without iodoform gauze, and the gauze drain through the vagina.

In some exceptionally bad cases, of ventral hernia, in which there has been great protrusion of the bowel, I have used buried mattress sutures of silver or bronze wire, and have had no ill results. Some of these patients have been operated upon years since, and are still alive and well.

Bearing on the question raised by Professor Bumm as to the possibility of *infection arising from the proximity of septic patients* after operation. I have had only a few instances reported to me, and these have not occurred in recent years. Dr. Lockyer reports a case in which a house surgeon dressed a case of erysipelas before assisting in a Wertheim. The patient died of acute toxæmia in forty-eight hours, and the house surgeon died of phlegmonous cellulitis of the arm a few days later.

GONORRHEAL INFECTION.

Inquiry as to the relationship of gonorrhœa to peritonitis has elicited a practically unanimous opinion on these points :—

1. That it rarely leads to general peritonitis, but very frequently to suppurative annexal inflammations, and pelvic perimetritis.

2. That when there is acute inflammation resulting from gonorrhœal inflammation, the best course to follow is to treat the case on general principles, and postpone interference until the acute stage is over.

3. That when operation is called for, and the affected annexa are removed, a vaginal drain should be inserted, and great care should be taken (Vaughan Sawyer) not to disturb adhesions.

Vaccine-therapy is advocated by Miss M'Iroy. Routh advocates waiting until the pus is sterile, and thinks that operations may thus be avoided.

In a remarkable case under my care, I had emptied the uterus of an anencephalic fœtus at the fourth month for a profuse gonorrheal endometritis. After convalescence and when all discharge from the uterus had ceased, symptoms of general peritonitis suddenly appeared. After waiting a few days, I opened the abdomen, and found a creamy exudate covering the pelvic peritoneum, and pus issuing from both the fimbrial orifices of the tubes. The exudate was carefully wiped off with formalin mops, double oophorectomy was performed, the uterine cornua being included. The patient did well. Gonococci were found in the pus-exudate.

PREVENTIVE MEASURES.

In the Presence of Premonitory Signs or Symptoms of Peritonitis, Local or General.—In addition to the general treatment by attention to the bowel, the administration of calomel, and enemata, re-opening the wound and

drainage where indicated, the general practice includes the adoption of the Fowler position, the administration of continuous saline by the rectum—(proctoclysis J. B. Murphy); the use of pituitary extract, and of eserine.

Opinions vary as to the *re-opening of the wound*, some surgeons being decidedly hostile to the step, but the great majority are in favour of re-opening and draining, generally through the posterior fornix of the vagina.

In my own practice, when *post-operative trouble arises*, I rely mainly on calomel, injections of oil into the bowel, previous to the administration of special carminative enemata; proctoclysis, with the adoption of the semi-recumbent or Fowler's position. *Pituitary extract* I have found most valuable in exciting peristalsis of the bowel. The stomach is washed out for vomiting, and atropine with morphine subcutaneously administered for the same. I re-open the wound only as a last resource when I suspect serous or purulent accumulation. Then I drain. The judicious use of stimulants in such cases is indispensable.

BACTERIOLOGICAL RESEARCH.

Comparatively few British operators have made systematic examination of the different fluids found during or after operation in order to determine the relative frequency with which different bacteria are met with in infective states of the peritoneum. The replies which I have received are practically unanimous to the effect that *post-operative peritonitis* is now of extremely rare occurrence. Indeed, with such strict aseptic precautions as are now universally adopted in this country, one can readily understand that this must be so.

The conclusions of those who have made researches into the order of frequency with which various infective micro-organisms have been found, are as follows:—(Alfred Smith) 1. *B. coli*; 2. *Staphylococcus pyogenes aureus*; 3. *Staphylococcus pyogenes albus*; 4. *Streptococcus*; 5. *Pneumococcus* (extremely rare). The last, he says,

would be found more frequently if Blood Agar were used as a routine culture medium, and the *B. coli* did not completely outgrow it.

Miss M'Iloy has made extensive examinations, and has found that the *Staphylococcus aureus* and *B. coli* are the most common; after these streptococcus. The *B. coli* outgrows the pneumococcus.

T. Wilson (Birmingham) gives in their order the streptococcus, *B. coli*, and *Staphylococcus aureus*. In one case after rupture of the uterus, he found the *Bacillus aerogenes capsulatus*.

Cuthbert Lockyer found the last organism also in a sloughing wound after Wertheim's operation and the *Streptococcus longus*.

Blair Bell gives the *B. coli* as the most frequent, and in obstetric cases the streptococcus; Haultain also found the *B. coli* more frequently than either the staphylococcus or streptococcus.

Campbell of Belfast considers that the staphylococcus and streptococcus supplant the gonococcus.

Mrs. Scharlieb has found the streptococcus, *Staphylococcus aureus* and *B. coli*, and Mrs. Vaughan Sawyer has found in one case after a Wertheim the streptococcus, and in another the *Staphylococcus pyogenes albus* and *S. aureus*.

Professor Byers, as the result of his researches, places them in this order:—*Streptococcus*, *B. coli*, pneumococcus, staphylococcus, gonococcus (rarest of all).

Vaccines.—As to the value of vaccines in arresting the spread of infective peritonitis, over seventy-five per cent. of those who have expressed an opinion in the matter, have done so either unfavourably, or say they have had no experience of their use. Miss M'Iloy expresses the opinion that in subacute conditions they arrest the spread of infection, and soften existing adhesions. She is at present making researches as to their effect in acute inflammation. Dr. Gow thinks that early vaccine may be effective; T. G. Atkins and Haig Ferguson employ polyvalent serum with benefit. Jellett approves of vaccine

for puerperal septicæmia if used in time, within twenty-four to forty-eight hours after the onset of the infective invasion. To be of use, the vaccine must be autogenous. Tweedy and Macan speak in favour of vaccine. Mrs. Scharlieb and Mrs. Vaughan Sawyer are strong in their praise of autogenous vaccine; stock vaccines, the latter says, have little effect. Blair Bell is favourable only to gonorrheal or tubercular vaccine, and Routh to their use in localised staphylococcus or streptococcus invasion.

Professor Byers considers vaccines useful for *B. coli*, pneumococcus, and staphylococcus, but not of much use in the streptococcus infection.

ART. XII.—*Remarks on Blood Pressure Determination.*"

By T. GILLMAN MOORHEAD, M.D., D.P.H., F.R.C.P.I.;
Physician, Royal City of Dublin Hospital.

THE subject of clinical blood-pressure determinations has now passed beyond the initial stage, and it has become a matter of almost routine practice to determine the arterial pressure by instrumental means in all cases in which it is thought that such a determination will throw light on the symptoms complained of. At the same time so many criticisms are levelled against hæmomanometry in general, both by those best qualified to speak, and by those who have never seen a hæmomanometer, that I feel justified in calling your attention this morning to the subject and in demonstrating to you the best known of the numerous hæmomanometers now on the market. Before proceeding further, however, I would like to point out that while advocating the use of blood-pressure instruments, I am far from believing that an accurate determination of blood-pressure is an essential in every case. The stethoscope, the ophthalmoscope, and the sphygmometer all have their uses in appropriate cases, but none of these will yield much valuable information if the trouble complained

" Part of a Post-Graduate Lecture—a demonstration given at the Royal City of Dublin Hospital.

of happens to be an ingrowing toe-nail. Just then as one limits the use of the stethoscope and the ophthalmoscope to cases in which their aid is required, so also should one limit the use of the sphygmometer.

In his little book, entitled "*Studies in Blood-Pressure*," Oliver points out that the first attempt to estimate arterial pressure in man was made as long ago as 1834, but it was not until von Basch in 1881, and later in 1890 when Ray and Adami described the prototype of one of the modern instruments, that any successful attempt was made to introduce the making of sphygmometric observations into general practice. The extended use of such observations is even more recent, and dates from the introduction of the Riva-Rocci instrument in 1896. Within the last five years, however, medical literature has been replete with often wearisome details of the numerous instruments that have been invented, while great diversity of opinion exists as to the value of making blood-pressure estimations at all, one individual maintaining that no instrument is of any value as compared with palpation by the educated finger, and another that estimation of the blood-pressure by the finger is as unscientific and as unreliable as taking the temperature by the sensation of touch.

Having regard to this difference of opinion, I may commence by referring to the different kind of apparatus which are at present used. They are divided into two main types according as the pressure is applied to the artery by an armlet encircling a digit or limb, or by direct application to the artery itself. The first apparatus consists essentially of an air pump, connected by a T-junction at one end with an armlet, and at the other end with a manometer. The type of pump varies with the whim of the maker, as does also the armlet, but these variations are unimportant, provided that the width of the armlet is sufficient and that the rubber tube of which it is composed is supported on the outer aspect by some non-distensible material. On the other hand much ingenuity

has been expended in the production of a reliable manometer, some inventors claiming that an ordinary mercurial pressure gauge is the best, others relying on a spring manometer, and others on one in which the pressure is indicated by means of air compression. Personally I used for some time a mercurial gauge, but latterly I have employed chiefly the instrument recommended by Lauder Brunton, in which von Basch's spring manometer is employed. This instrument and von Gaertner's represent sufficiently well the armlet method as applied to a limb and to a digit respectively. Lauder Brunton's instrument is doubtless familiar to every one, and I now demonstrate its uses, and that of von Gaertner. The other type of instrument in which pressure is applied directly to a vessel is sufficiently well illustrated by the varieties that I now show. These are—(1) Leonard Hill's; (2) Nixon's; (3) Hill and Barnard's.

With most of these instruments we may determine the blood-pressure either by observing the degree of pressure required to just obliterate the pulse in the vessels or vessel distal to the part where pressure is employed, or else by observing the oscillations of the index in the manometer. The first method may for the present be briefly dismissed by stating that all writers are now agreed that the pressure recorded in this way corresponds to the maximal systolic arterial blood-pressure, provided that the arteries are healthy. As regards oscillation of the index one finds on starting to make an observation that the index does not oscillate until a certain degree of pressure, often from 50 to 70 mm. of Hg. has been applied. Once oscillations start they are observed to gradually increase to a maximum as more and more pressure is employed, and then again to gradually diminish, and finally to cease when that degree of pressure has been reached which will completely obliterate the artery during cardiac systole. The pressure at which maximal oscillations are developed is generally regarded as being equivalent to the diastolic pressure, and has been proved to be so by

experiments upon animals. The objection, however, to depending upon it is the difficulty of determining the exact point at which maximal oscillations occur, though if one could rely on the personal factor, it would plainly be an advantage to be able to distinguish diastolic from systolic pressure. Special instruments now exist for this purpose, but need not now detain us.

Numerous objections have been urged against the accuracy of both types of instrument, and in particular it is pointed out that in the type of instrument which is used to obliterate a single artery results will vary a good deal, according as to whether the artery is pressed against underlying bone, or soft tissues. Obviously also inaccuracy in applying the pressure upon the vessel itself will interfere with the results. I am perfectly convinced, however, that when the radial artery is selected, and when it is compressed against the radius with the wrist extended uniform results will be obtained by anyone who has familiarised himself with the use of any one of the commonly used instruments. But even if the difficulties referred to are admitted, the objections do not apply in the same way when the instrument is employed to determine the diastolic pressure by the maximal oscillation method. The only objection which can be raised against the results as thus obtained is one which applies equally to the armlet instrument, and is a most important one. To state it briefly, it is maintained by many observers that the pressure required to overcome the resistance of the vessel itself apart from the pressure within it caused by the contained blood may be very considerable, while other writers maintain that the pressure required to obliterate an empty artery is so slight as to be practically negligible.

In dealing with healthy arteries everyone admits that the obliteration pressure does not exceed 2-3 m m. of Hg., but the really important question is whether this applies to diseased vessels. According to Hill and many other writers it does. They state that sclerosed arteries will

collapse at a pressure of not more than 7 mm. of Hg. and quote numerous experiments in support of their statement. Williamson and Herringham, on the other hand, maintain that the requisite collapsing pressure may be as much as 22 m.m. of Hg., and Russell, arguing on somewhat similar lines, asserts that one must carefully distinguish between living and dead excised vessels. He also makes the incontrovertible statement that for a given thickness of wall the smaller the lumen the more pressure is required to obliterate it, and as in living vessels the size of the lumen may be lessened, and at the same time the thickness of the wall increased either by permanent changes of the nature of arterio-sclerosis, or by the more temporary change which he terms hypertonus—*i.e.*, spasmodic contraction of the muscular wall, a condition which will obviously not exist in the dead vessel, he believes that much stress must be laid on the part played during life by the vessel wall in resisting compression. In support of his statement he alludes to the occasional different pressure readings obtained in the leg and arm arteries of the same patient at the same time; and also to Oliver's statement that the pressure obtained by the armlet method, and by the method of directly compressing a single artery and observing the maximal pressure oscillation may vary enormously. In reply to his arguments, however, it may be pointed out that :—(1) He does not admit sufficiently the increased power which an hypertrophied ventricle can exert. (2) That even if his contention is correct, the resistance of the vessel wall could hardly, in the most hypertonic state, account for the very high pressure occasionally recorded, such as 300 m.m. Hg., and it is in such cases that he believes the wall exerts most resistance. (3) That it has been established beyond doubt by Clifford Allbutt and by Huchard that the pressure may be low in cases of arterio-sclerosis, and often is; these being the very type of case in which, according to Russell, a high pressure should always be found; and (4) assuming the entire correctness of all his

views, one must still admit the value of hæmometric readings as showing to some extent the height of blood pressure, and at the same time the condition of the arterial wall. To sum up, a review of the literature of the subject seems to show that, speaking generally, the armlet method gives a good indication of the actual height of blood pressure ; in some cases the vessel wall may exert a resistance up to 20–25 mm. Hg., but, as in these cases, the blood pressure is certain to be raised, and as the important question is whether the pressure is abnormally high or not is the one to be decided, the part played by the vessel wall is clinically unnecessary to consider.

If then we admit that the hæmomanometer can be relied upon as accurate—(1) when the pressure is abnormally low, and (2) when the pressure is normal, and also admit that high pressure readings, though not necessarily accurate, and caused both by vessel resistance and blood pressure, are still an indication that the pressure is higher than it should be, and the vessels probably altered, we must next ask the question as to whether observations of the blood pressure are of any use in practice.

In answering this question, I first freely admit that in many cases I have failed by digital examination to detect high and low tension respectively, and I do so the more frankly when I find that such expert clinicians as Gibson and Clifford Allbutt confess to the same difficulty in estimating blood pressure by the finger. If others admit to the same difficulty, the value of hæmomanometric readings in practice is at once proved, as no one will, I think, doubt the importance to the individual of marked changes in the blood pressure.

Cases with a low reading are less common than those with high pressure, but regular examination of fever cases, and of some cardiac cases, will reveal unusually low tension, and in diphtheria especially may be a warning of impending heart failure. In typhoid also the use of stimulants may be suggested by a falling pressure, while a sudden rise accompanied by abdominal pain may be of

great clinical value in diagnosing perforation. In heart cases the failure of digitalis to raise the pressure may generally be taken as of bad prognostic import. and in Addison's disease a low pressure reading may be an important aid to diagnosis. In speaking of low pressures, however, it is important to recollect that just as other physiological phenomena, there may be fairly wide deviations from the average, and that such deviations are not necessarily abnormal. For example, a friend of mine who is unusually active and who is possessed of fair average health, never shows a reading above 100 mm. Hg., and in the course of routine examination I have occasionally met with similar cases.

As regards high pressure, it is unnecessary to particularise, as it is common knowledge that the pressure is raised in certain cases of renal disease, cases of increased intra-cranial pressure, many cases of melancholia, and other conditions that will readily occur to the medical mind. In some of these cases a lessening of blood pressure is accompanied by a general improvement of the patient, and our therapeutic measures should in consequence be directed, in part at any rate, to bringing about such a lowering of arterial tension ; in others a fall of pressure, instead of causing improvement, is detrimental. We must therefore not merely ascertain that pressure is raised, but endeavour to ascertain the cause why it is raised, and by a careful consideration of all the symptoms of a patient decide as to whether the high pressure is compensating and beneficial, or harmful in any particular case. To further discuss this subject would, however, bring me into a wider field than it is my intention to deal with this morning.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON ANATOMY.

1. *Manual of Human Osteology.* By A. FRANCIS DIXON, M.B., Sc.D. London: Henry Frowde and Hodder & Stoughton. Oxford Medical Publications. 1912. Cr. 8vo. Pp. xii + 316.
2. *Cunningham's Manual of Practical Anatomy.* By the late D. J. CUNNINGHAM. Fifth Edition. Edited by ARTHUR ROBINSON, Professor of Anatomy in the University of Edinburgh. Volume I.—Superior Extremity; Inferior Extremity; Abdomen. Edinburgh, Glasgow and London: Henry Frowde and Hodder & Stoughton. 1912. Cr. 8vo. Pp. xxviii + 673.

1. It is with pleasure that we welcome this book by the University Professor of Anatomy and Chirurgery, Trinity College, Dublin. Of its kind it is a good book, but we are by no means convinced that its kind is good. The Anatomical Department of a Medical School exists to provide facilities for students of medicine to make themselves familiar with the changing structure of the body of the living human being from the moment of his birth until the end of his life. When it gives instruction to the students who attend it in the science of adult human necrology, with a few side references to adolescent and infantile necrology, it fails in its function.

It is, of course, true that the study of the dead body is an essential part of the work of the student of anatomy, but the deadness of the material should be clearly recognised as an unavoidable accident, a difficulty and a complication. In this book the deadeast of dead bones are de-

scribed, and the description flows uneasily because of the Latin names given to the various structures:—"Below the fossa is the rough *tuberositas infraglenoidalis* for the *caput longum* of the triceps muscle, and just above it is a small, slightly marked, area, the *tuberositas supraglenoidalis*, for the origin of the *caput longum* of the biceps muscle." "Close to the *caput humeri* there are two well-marked tuberosities—namely, the *tuberculum majus*, which forms the outer part of the upper end of the humerus, and the *tuberculum minus*, which is more conical and projects directly forwards." "We have already noticed that the *foramen ethmoidale posterius* affords a passage for the posterior ethmoidal artery, and that the more important *foramen ethmoidale anterius* transmits the anterior ethmoidal artery and the continuation of the *nervus naso-ciliaris* or nasal nerve (a branch of the *ophthalmicus* division of the *nervus trigeminus*)."

These three extracts, chosen at random, illustrate the style of the book, and the reasons which have compelled the author to adopt it are not far to seek. The Latin terms are those adopted as standards by the Basle Nomenclature Committee with the intention that each country should translate them into its own tongue. In America the medical students are Irish, Scotch, English, German, Polish, Russian, Czech, Italian, Armenian, Greek, and what not, and because of this some American teachers find it easier to use the Latin terms. The manuals of the series to which this book belongs have, in the past, found a market in America; naturally, the American publishing firms would prefer that they did not.

The writer of this review was by chance present at an interview between a representative of an American publishing house and an American anatomical teacher, who preferred British text-books. The "drummer" put it to the teacher that this was "unpatriotic," and that anyhow the Britishers' books were "out of date" because they did not use the Basle nomenclature. This book, we imagine, is designed by its publishers to be up to date, and to meet the requirements of the American market. But, unfortunately, because American medical students are of mixed

nationality and uncertain speech, British and Irish medical students are to be taught a nomenclature quite unsuited to the genius of the British language ! We hope that the clinical teachers will resist this movement. In what respect does the term "massa lateralis" improve upon lateral mass, or "arcus posterior" upon posterior arch, or "apertura thoracis superior" upon thoracic inlet, or "corpus sterni" upon body of the sternum, and who, knowing the English term, would fail to translate the Latin form correctly if he met it in an American book ?

Os naviculare, os lunatum, os triquetrum, os pisiforme, os multangulum majus, os multangulum minus, os capitatum, os hamatum are the carpal bones. Tuberculum ossis multanguli majoris is the ridge on the trapezium. The linea arcuata is the pars iliaca of the linea terminalis or iliac portion of the pelvic brim. These and many other terms do require to be introduced into English text-books, because the Americans are using them, and American medical writings must be read in the British Isles, but sufficient familiarity with them could be gained if they were placed in brackets immediately after the English form, and then the next generation could, and would, do what it liked about adopting them. At present their wholehearted adoption by British anatomists spells chaos in the hospital wards. The older surgeons will be surprised when their students tell them, quite correctly, that the radial nerve supplies the triceps muscle. They will be still more horrified when they learn that the human body contains no such structure as the musculo-spiral nerve.

In fact, the publishers of our anatomical books, to capture the American market, are to plunge us into confusion, and our own students are to be rendered incapable of reading our medical classics. Let anyone try to read Hilton's "Rest and Pain" with a mind rigorously excluding all the old anatomical terms and compelling itself to think in the Basle Nomenclature. It cannot be done. It seems to us that it would be wiser to let the change come more slowly. There is much that is good in the Basle Nomenclature, but it is far from perfect. The names it gives to many structures will pass and will be replaced by others

based on embryology and on more accurately ascertained facts.

But to return to the book. It has 178 figures, all new, and all, with the exception of one or two photographs, from drawings by Mr. J. T. Murray, the very best of British anatomical artists. The drawings are of a good, an excellent type. They are diagrammatic keys to help the student to study the real thing, and that is what the anatomical teacher hopes to find in the books his students use. Professor Dixon is to be congratulated no less than Mr. Murray upon their successful conception, execution, and reproduction. As a piece of book-making the volume before us is no less successful. The type is good and clear, and the paper is of good quality, though its thickness is greater than necessary, and has the effect of making the book seem longer than it really is. This is to be regretted, because, for psychological reasons, a student's book should always seem as short as possible.

To the fastidious reviewer some of the sentences are irritating. On page 45 we read :—"The student is advised to again direct his attention to the thorax in the articulated skeleton, and to carefully examine the form of the chest cavity." With Captain Hook in "Peter Pan" we exclaim "Split my infinitives"! But, when all is said and done the book is a good book, and we congratulate Professor Dixon.

2. IN the new edition of this well-known manual an advance has been made towards a fuller adoption of the Basle anatomical nomenclature. The B.N.A. names are for the first time given precedence, and are printed first in each case, the older English names being placed second. This change is justified, as the universal adoption of the international names is merely a question of time, and during the seventeen years that have elapsed since their publication a very large proportion of the names have become familiar in books printed in Great Britain, while in Canada, the United States, and Australia even greater advance has been made towards the adoption of the international anatomical terminology.

Several new dissections are described, and most of these have been devised in order to display the anatomy of regions which, in recent years, have become more important from a surgical standpoint.

The entire text has been revised, and several excellent new illustrations have been introduced. If we were to venture a criticism, it would be that there is a risk that too complicated and detailed illustrations are beginning to replace older and more striking figures which were, in some cases, better adapted for teaching purposes.

The fifth edition is a worthy successor to the earlier issues of this splendid manual.

Medico-Legal Examinations and the Workmen's Compensation Act, 1906. By SIR JOHN COLLIE, M.D., J.P.
London: Baillière, Tindall & Cox. 1912. Demy 8vo.
Pp. 128.

THE author of this little treatise is fully competent to deal with his subject. Besides holding the appointments of medical examiner for the London County Council and chief medical officer to the Metropolitan Water Board, he is examiner to several insurance offices. In the course of one year well over one thousand cases of injury have been examined by him, the majority of which were what may be styled medico-legal cases—cases where accident or disease gives rise to legal proceedings, either at common law or under the Workmen's Compensation Acts.

The first few pages are in the nature of an introduction, dealing with the mental attitude of claimants and the temptation that lies before them of exaggerating the effect of their injuries, and of making their symptoms appear far worse than they are in reality. "The inhibition of auto-suggestion by counter-suggestion" is offered as a remedy, or, in less technical words, the substitution of other and healthier ideas for the morbid sensations that have their origin in the mental commotion produced at the happening of an accident, their stimulus in contemplated litigation, and their sequel in such conditions as "railway spine" and traumatic neurasthenia. It is well known

that that patient makes slow progress towards recovery, whose symptoms are aggravated by "case-pending" complications.

The pages that immediately follow are devoted to the detection of malingering, and medical men will find many useful hints as to the best methods of conducting medico-legal examinations. Many a case of fraud has been discovered by some trifling matter. In one case the intentional dropping of a pencil by the medical examiner has betrayed a too-polite claimant into forgetting for the moment his alleged stiff back, and stooping nimbly to pick up the fallen article. The question whether hernia should be the subject of compensation or not is discussed. In most cases hernia is congenital. As the author says:—"Some are born to be ruptured, some of these achieve rupture, few—very few—have rupture thrust upon them." It is, in fact, the result of an anatomical defect, and the only "accident" is the accidental discovery of the swelling; yet in almost every case of this kind compensation is allowed.

Many cases arising in the course of the author's own experience are interspersed in small type through the first forty pages of the work. In places they tend to spoil the free flowing of the text, and to merely repeat the contents of the paragraph preceding them, of which they are given as examples. It would be well if these were all collected together and placed with those other cases that exemplify the nature of the problems presented for solution by medical examinations, and which occupy pages 42 to 60 of the book.

The legal part of the work contains a short historical review of the Laws of Compensation. The author discusses at considerable length the intention of the Act and the actual result of its working. He suggests several amendments to the Act of 1906. While many of these are undoubtedly good, some are unnecessary and others undesirable. We agree that the aid of medical assessors should be sought more often than at present, but we consider that the reference of a case to a medical referee at the instance of only one party would prove of small advan-

tage, and would be liable to abuse. The medical referee should be a physician or surgeon engaged in active practice, and it would be a grave mistake to make him a whole-time salaried official.

The book is well printed and neatly bound, but it is without an index, and is not divided into chapters.

A. R. M.

The Principles and Practice of Medicine. Designed for the use of Practitioners and Students of Medicine. By SIR WILLIAM OSLER, Bt., M.D., F.R.S., F.R.C.P. Lond.; Regius Professor of Medicine, Oxford University; Honorary Professor of Medicine, Johns Hopkins University, Baltimore, &c. Eighth Edition, largely re-written and thoroughly revised with the assistance of THOMAS McCRAE, M.D., F.R.C.P. Lond.; Professor of Medicine, Jefferson Medical College, Philadelphia; formerly Associate Professor of Medicine, Johns Hopkins University. New York and London: D. Appleton & Company. 1912. Royal 8vo. Pp. xxi + 1225.

LITTLE more is necessary than to draw attention to the publication, on September 18, 1912, of the eighth edition and tenth issue of "Osler's Practice of Medicine." In the three years which have elapsed since the seventh edition appeared Medicine has made great strides. They are duly chronicled in this work, which has been brought up to the present state of our knowledge by Sir William Osler himself with the able assistance of Dr. Thomas McCrae, who has revised the sections on treatment and the section on diseases of the organs of locomotion. Dr. McCrae has also seen the work through the press. The volume has increased in size by some 80 pages. New matter includes an account of Kala-Azar under the name of "Leishmaniasis" (pages 260, 261); the sporotrichoses (pages 234, 235); the colon infections (pages 46 to 48); poliomyelitis, with an account of the positive reaction of the cerebro-spinal fluid to Noguchi's butyric acid test for globulin as an early diagnostic test,

and of free doses of urotropine as a remedy (pages 366 to 368); pellagra (pages 411 414), disorders of metabolism, the caisson disease, rare disorders of metabolism—namely, hæmochromatosis (page 453), and ochronosis (page 454); disorders of the organs of internal secretion, and diseases of the blood. There are also several allusions to salvarsan. Noguchi's *luetin* test for syphilis is briefly described at page 277, but the Wassermann reaction, although repeatedly mentioned, is nowhere explained.

We are glad to find "Brill's Disease," about which such a fuss has been made of late, very properly spoken of as in all probability a sporadic type of typhus, "an opinion to which Brill himself leans." Any one reading the account of this fever given at page 352 can scarcely come to any other conclusion than that typhus is being described.

Enough has been stated to show that Osler's Practice of Medicine keeps well abreast of the advances of medical science.

The New Physiology in Surgical and General Practice.

By A. RENDLE SHORT, M.D., B.S., B.Sc. (Lond.), F.R.C.S. (Eng.); Hon. Surgical Registrar, Bristol Royal Infirmary; Senior Demonstrator of Physiology, University of Bristol. Second Edition, revised and enlarged. Bristol: John Wright & Sons, Ltd. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd. 1912. Cr. 8vo. Pp. xi + 244.

So recently as November, 1911, we expressed a favourable opinion of Dr. Short's original and very well-written book. The first edition was quickly exhausted, and the author has lost no time in preparing a second edition, with many valuable additions. Of these the most notable is a new chapter on the growth of bone. It is largely based on Sir William Macewen's researches, which were published in Glasgow last year.

In the second chapter—on "Problems of Blood-pressure and Surgical Shock"—an account is given of

Yandell Henderson's researches at Yale on the relation of a deficiency of carbon dioxide in the blood to surgical shock. Such a reduction of CO_2 is called *acapnia* (\acute{a} = lack of; $\kappa\alpha\pi\nu\acute{o}\varsigma$ = smoke), and the suggestion is that this acapnia is the prime cause of shock.

New paragraphs have also been introduced dealing with gastric secretion in man, the pituitary gland, and the therapeutic and physiological uses of its secretions, sensory localisation in the brain, including recent researches by Henry Head and Gordon Holmes as to the relations of the cerebral cortex, optic thalamus, and mid-brain to various forms of sensation; the researches of Capp on the innervation of the pleura and his explanation of the local and the referred pain of pleuritis.

Dr. Short's excellent little work might well be entitled "Applied Physiology in Medicine and Surgery."

A Text-book of Pathology for Students of Medicine. By J. GEORGE ADAMI, M.A., M.D., F.R.S., Strathcona Professor of Pathology, McGill University; and JOHN McCRAE, M.D., M.R.C.P. (Lond.), Lecturer in Pathology and Clinical Medicine, McGill University, Montreal. Illustrated with 304 Engravings and 11 Coloured Plates. London: Macmillan & Co., Ltd. 1912. Demy 8vo. Pp. x + 759.

FOLLOWING upon the appearance of their "Principles of Pathology," the authors seem to feel it incumbent on them to give some explanation and apology for the publication of the present work. In our view, however, this book is its own apology, and will appeal, as indeed it is intended to, to a different and even wider public than does the earlier monumental production. As a work of reference and as a text-book for professed pathologists the "Principles" is perhaps unequalled, but for the student and for the practising physician it is undoubtedly large, and to both the present book—a volume of about 700 pages—should prove most welcome.

The book is divided into two main sub-divisions, the first dealing with general and the second with special pathology. It is profusely illustrated, and most of the

illustrations are good and well selected. A few, however, appear to us rather crude and hardly up to the general standard of the book. Some really first class coloured plates are included. The paper, printing, and binding are all good; the size is handy, and the index excellent. In Part I. a much more complete account of the causes of disease and of general tissue changes is given than is usual in the ordinary student's text-book. In this we think the authors are wise, as on a thorough knowledge of general principles depends undoubtedly the grasp of the facts of special pathology. Bacteriology, in accordance with the general custom nowadays is excluded except in a general way. The chapter on tumours is most instructive, and one of the best in the book; it exhibits the wide outlook of the authors in relation to the phenomena of pathology.

Part II. deals systematically with the different body systems. While differing little from the usual plan, it bears evidence throughout of the personal experience and views of the writers. Every statement has been tested before acceptance. One naturally notices here and there some omissions, but on the whole this part is wonderfully complete. We conclude as we began by stating that in our opinion this book will prove most useful and welcome to a very large number of medical men and students, who will find it amply sufficient for their wants, and thoroughly accurate.

Stomatology in General Practice. A Text-book of Diseases of the Teeth and Mouth for Students and Practitioners. By H. P. PICKERILL, M.D., Ch.B., M.D.S. (Birm.), L.D.S. (Eng.). London: Henry Frowde and Hodder & Stoughton. 1912. Demy 8vo. Pp. xii + 268.

THAT Dr. Pickerill's literary activity should so soon result in a further addition to our text-books is scarcely to be wondered at when we know that for some years, while he was engaged in important research work, he wisely refrained from putting pen to paper. The work before us

contains the substance of his lectures to medical and dental students at the University of Otago, and deals with that borderland between Medicine and Dentistry which to a certain extent is looked upon as a *terra incognita*, and consequently avoided by practitioners on either side of its boundaries. Yet we think that this territory was at the beginning of the last century the happy hunting ground of some of the French surgeons, and was later more fully explored by the late Mr. Salter, of London, all of whom did much valuable work there, and achieved lasting fame.

Passing the excellent introductory observations on anatomy and physiology in Dr. Pickerill's book, we arrive at deformities of the teeth and jaws. Here the author in certain cases advocates their treatment by re-implantation as giving good results in his hands. But he does not tell us anything about the treatment of the pulp canals, and as, from the ages of his patients, the apices of the teeth must have been fully formed, we do not quite understand how that, two years later, the teeth were healthy, even though the operations were performed with the strictest aseptic precautions. In such cases we find it difficult to believe that once the blood supply of the pulp is interrupted it can ever become re-established! But perhaps the author will clear up this point in some future communication.

Cleft palate—the congenital variety—has long been a bone of contention between surgeons and dentists, and its treatment is still far from satisfactory. But Dr. Pickerill, by a combination of surgical and mechanical treatment, which is extremely ingenious, shows us a way out of the difficulty. His method is "to provide a bar of soft tissue across the cleft posteriorly to which a hinged artificial velum can be secured, and thus be under complete control. The technique of the operation is as follows:—The posterior parts of the soft palate and uvula are utilised to form the bar. The posterior edge of one half of the velum is pared, and the lateral edge of the other; both vela are then freed by lateral incisions at their posterior and lateral margins. The two prepared halves of the velum are then brought across, so that their pared edges are con-

tiguous, and are sutured in this position, all tension being further relieved by further lateral incisions if necessary. In about three weeks' time an appliance is constructed, having a hinged artificial velum of hard, polished vulcanite accurately moulded to the cleft and to the posterior wall of the pharynx (in contraction); this passes on the lower side of the bar. Just in front of the bar a broad, smooth, hook-like process is attached to the vulcanite velum, and passes over the upper surface of the bar, thus anchoring the vulcanite velum securely to the bar; the whole thus moves up and down rapidly and naturally during speech and deglutition. This method has the advantage of being quite simple and rational, and in the author's hands has yielded excellent results.' (The diagrams by which this description of the procedure is illustrated render it perfectly easy to follow.) However, without some practical experience of how the bar of new tissue, formed across the palate, would stand the strain, although slight, of a mechanical appliance, we hesitate to pronounce a definite opinion in its favour. But we are entirely with Dr. Pickerill in his insistence that these patients should receive a careful training in elocution once they are provided with a satisfactory appliance that will cut off the nasal passage.

We consider the chapter on inflammatory conditions of the mouth and gums to be quite the best that we have met with, and to fill a long-felt want in our text-books. Too often the descriptions given of these affections sound as if their authors had but little real familiarity with their subject. Dr. Pickerill, on the contrary, starts with a good classification, talks about what he has evidently observed, and treats the whole matter in a thoroughly practical manner.

The author's treatment of pyorrhœa alveolaris is certainly radical, and for those cases in which he advocates its adoption ought to prove effective. It consists in the entire removal of the gum pockets by gingivectomy. This, of course, necessitates keeping the patient in a general hospital, preparing the patient properly for operation, and using chloroform for the anæsthetic. This operation is

recommended for those cases where a surgeon requires a septic mouth rapidly treated prior to a major operation on some portion of the alimentary tract so as to avoid any risk of secondary infection. This method of treatment would appear to us to be based on sound surgical principles, and should give excellent results; but we fancy there might be some difficulty in getting patients to consent to it in private practice.

A useful section of the book is devoted to dental caries, which may be read with profit by both dental and medical students, and practitioners in remote districts will find many hints there for dealing with cases of toothache instead of at once resorting to the forceps. Throughout this chapter the author makes use of the term myelitis to express inflammation of the pulp, which we venture to think has little to commend its employment, except being more strictly classical as against pulpitis, a term almost universally understood in its special meaning.

The chapter on extraction is well written, and gives clear and precise instructions for the performance of this operation. The illustrations of the methods of holding forceps and the position of the left hand in operating leave nothing to be desired, and should prove the greatest help to junior practitioners. In treating of hæmorrhage after extraction the author recommends plugging the socket with carbolised resin and zinc oxide, which in our experience is rather a messy preparation. Curiously enough, he adds that "adrenalin" is of no value in such cases. This latter statement, we imagine, is contrary to the experience of most practitioners in this country.

Fractures and dislocation of the jaws are admirably condensed into some twenty pages, and the various forms of splints described and illustrated sufficiently well even for the requirements of examining boards. Dr. Pickerill gives us his own method of interdental lacing or wiring which would seem to be both effective and simple, and more hygienic than any form of splint, but of course the application of wires is altogether dependent on the patient being possessed of teeth. Where these are absent recourse must be had to a splint. All through this chapter we

regret to find that the author perpetuates a blunder in his terminology which is at once very confusing to the reader and inexcusable for one who otherwise attaches such precise meanings to his words as Dr. Pickerill evidently does from other passages in this work. We refer to the use of the term "horizontal ramus" in connection with the lower jaw, whereas we believe that we are correct in stating that most anatomists agree in describing the lower jaw as consisting of a body and the ramus the ascending portion. In treating of closure of the jaws the author again evidently thirsts for originality, for he discards the old term "trismus," which is an excellent one, sanctioned by custom, and which perfectly described this condition, in favour of "amasesis" (inability to masticate), which perhaps expresses the most trivial portion of the patient's ailment, and certainly not that which urges him to seek surgical relief. While we sympathise with Dr. Pickerill in desiring to employ pure classical terms, we cannot agree with him in thinking that in this case, at all events, he has made a happy substitution for a word whose meaning we all thoroughly understood.

While it is not possible to notice all that this excellent work contains, we must not omit to draw attention to the really valuable collection of formulæ given in its last pages. These will prove useful alike to the recently qualified as well as the senior practitioner, whose facility for writing prescriptions has become somewhat dulled through lack of every-day practice.

This book is well printed and illustrated, and the subject-matter presented throughout in a most clear and readable form. We have no hesitation in advising any one in search of a text-book on stomatology to procure a copy.

Eighth Report on Research Work on the Softening, Purification, and Sterilisation of Water Supplies. By DR. A. C. HOUSTON. Metropolitan Water Board. February, 1912. Folio. Pp. 18.

WE have received this, the eighth of a series of reports drawn up by Dr. A. C. Houston for the Metropolitan

Water Board, London, and based upon a long and elaborate course of experiments dealing with the softening, purification, and sterilisation of water supplies.

One would need to peruse these papers minutely to appreciate the amount of labour expended upon their compilation. They should be of immense value to medical officers of health, and are well worthy of perusal by any one interested in water supply and water-borne diseases.

Psychological Medicine: A Manual of Mental Diseases for Practitioners and Students. By MAURICE CRAIG, M.A., M.D. (Cantab.), F.R.C.P. (Lond.); Physician for and Lecturer in Psychological Medicine, Guy's Hospital; Examiner in Psychology and Psychological Medicine, London, &c. Second Edition. London: J. & A. Churchill. 1912. Demy 8vo. Pp. xii + 467.

THE representatives of the research of the practical Twentieth Century appear to grow continuously more and more confident, as well as aggressive, in their attacks upon the forts of Nature's formerly mystical domains, and their appropriation and culture of all the previously dark places of the latter. The mind, as well as the body, must be—so they say—made to yield up its secrets. This very full contribution to the physics and metaphysics of psychology, and the physiology and pathology of the same labyrinthine domain of human knowledge and research, would appear to have shown good cause for its presence in the ever-widening—innermost—circle of our medical literature. For it forms a very substantial octavo of xii + 467 pages; and is the second issue of a text-book of which the first edition appeared seven years ago.

The author has evidently studied his subject with scrupulous care and industry, and has utilised all his very excellent opportunities in equipping himself for entrance on the truly oceanic vastness of this domain, and dealing with the evasive fluidity of the medium of which he has so heroically determined to constitute himself cartographer.

He regretfully indicates the fact that although there has of recent years been “ a very great awakening to the importance of his subject ”—resulting in the opening of laboratories for the teaching of psychology in educational centres, and the issuing of diplomas to the successful students of psychological medicine—we still lag behind the Continental time and quality of progress, for we are still without the “ psychiatric clinic ” which is to be found attached to many hospitals on the Continent. The fact that up to present date there are no “ facilities for the treatment of poor persons who are showing signs of nerve exhaustion or incipient insanity ” (who are, accordingly, allowed to drift on until they can be certified as persons of unsound mind) surely represents a state of apathy in those who are in charge of the public interests of our race and its Empire, which should not be allowed to continue for a day longer than the pressure of circumstance enforces.

The author has, as he tells us in his preface, endeavoured to bring under the notice of his readers all the most important modern investigations of the labyrinthine departments of his subject, and also the various means and methods of treatment.

The text of the body of the work is divided into twenty-four chapters, and is followed by a good index. The first chapter is, necessarily, constructed in the form of an introduction; it is headed “ Normal Psychology,” and the author gives and has concentrated therein a very good summary of the leading facts and features associated with the active performance of the highest functions of humanity—with the gifts and capabilities which distinguish *Homo sapiens* from all other genera and species of the animal kingdom. Our author discusses, as he had, indeed, already done, such subjects as *mania*, *melancholia*, *stupor*, *catatonia*, *dementia præcox*, &c., &c., from the standpoint of an experienced and highly perceptive expert; and his discussion of the *Intoxication Psychoses: Alcoholism, Koraskow's Disease, Morphinism, Cocaïnism and Plumbism*) presents each of these subjects in a clear and instructive light. In the puzzling domain of hysteria Dr. Craig appears

to incline towards the view of Babinski, "who would appear to exclude from hysteria any symptoms which cannot be produced by suggestion. He regards the patient as capable of auto-suggestion." So do we, indeed—without a trace of doubt or passing hesitation! And, in conclusion, we will not wait further than to say that Dr. Craig has prepared a sound and reliable guide-book to the labyrinthine mazes of one of the most important departments of the art of healing—or of nursing and watching.

Prescribers' Formulary and Index of Pharmacy. By THOMAS PUGH BEDDOES, M.B., B.C. Camb. : F.R.C.S.I. Eng. London : Baillière, Tindall & Cox. 1912. Pp. xii + 132.

THIS little work has been published with a view to providing a book to which the practitioner may refer at the time of writing a prescription. Among its contents will be found convenient tables of the drugs in ordinary use, with their various liquid preparations and the doses thereof. A further list of drugs, official and non-official, is included, classified according to their uses and the forms in which they are most conveniently employed. With each drug its dose is mentioned, together with one or more suggested prescriptions for its use. Among these prescriptions will be found some which deserve special mention, such as those for the administration of drugs in effervescence and for the preparation of ointments in "stick form," which should prove a cleanly method for prescribing ointments containing substances such as chrysarobin. In the case of proprietary articles the name of the makers or their London agents, where the preparation may be obtained, is indicated. Throughout the book care has been taken to include only such drugs as may be readily obtainable.

Its small size, only $3 \times 4\frac{1}{2}$ inches, makes it very suitable for carrying in the pocket, and with its many useful contents it should prove of great use to those whose profession necessitates the prescribing or dispensing of drugs.

PART III.

SPECIAL REPORTS.

REPORT ON MEDICINE.

By T. GILLMAN MOORHEAD, M.D., F.R.C.P.I. ; Physician
to the Royal City of Dublin Hospital.

I. ÆTIOLOGY OF ARTERIO-SCLEROSIS.

SALTYKOW discusses the ætiology of arterio-sclerosis. He points out that the fatty changes so often found under the intima in young individuals constitutes the first stage of atheromatous degeneration, and he further insists on the fact that arterio-sclerosis is really a disease of early life. Owing to the very gradual development, however, of the progressive degenerative changes highly advanced grades of sclerosis are met with only in advanced life. Two theories regarding the causation of sclerosis are widely held—the one that it is due to increased blood pressure, and the other that it is produced by toxic influences. The first of these theories is dismissed, and it is strongly maintained that the changes caused by injections of adrenalin are of quite a different nature to true arterio-sclerosis. As toxic causes alcohol, tobacco, and lead are mentioned ; and in addition it is pointed out that chronic infective diseases, such as phthisis, are frequently associated with early arterial changes. Recurring appendicitis, diphtheria, chronic gastro-enteritis, and otitis media are also regarded as possible causes. In support of the toxic theory the writer points out that injections of micro-organisms in animals rapidly produce arterio-sclerosis. Once arterio-sclerosis is established heightened blood pressure may have a secondary effect.—*Corresp. Bl. f. schweizer Aerzte.* 1911. Nos. 26 and 27.

II. CEREBELLAR CYSTS.

WILLIAMSON discusses the varieties of cerebellar cysts, and points out that the frequency of such cysts is about one to every six solid cerebellar growths. Apart from cystic tumours, in which the tumour can be recognised by the naked eye, and parasitic cysts, the following varieties have been described :—(1) Cysts with only a minute microscopic fragment of tumour growth in their walls ; (2) Serous cysts without the slightest trace of new growth in their walls ; (3) Cysts connected with the fourth ventricle ; (4) Cysts following hæmorrhage or softening ; (5) Dermoid cysts. Unlike the prospects of cure by operation of cerebellar tumours, the prospects of successful treatment by operation of cerebellar cysts is extremely good, and in all cases in which a cerebellar tumour is diagnosed operation should be recommended, as, if the tumour should prove to be of cystic nature a cure, either temporary or permanent, is likely to be achieved ; while, if the tumour is solid, relief may follow the decompression.—*Review of Neurology and Psychiatry*. March, 1910.

III. INTUSSUSCEPTION IN CHILDREN.

KOCH and Oerum analyse the records of 400 cases of intussusception occurring in Danish children. The most common form of intussusception is the ileo-cæcal, and they are strongly of opinion that a necessary condition for its occurrence is a floating cæcum. Sixty per cent. of all cases occurred in the first year of life, and the proportion of boys to girls was 2.2 to 1 calculated for all ages under one year. As predisposing causes, ascarides, the presence of polypi or of a Meckel's diverticulum, and the giving of laxatives are mentioned. Colicky pain, vomiting, the passage of blood-stained mucus, and the presence of a tumour are regarded as the cardinal symptoms ; a tumour being palpable in 85 per cent. of all cases. An examination of the records shows that non-operative treatment gives the best results in children under a year old, while in children over a year primary operation yields just as good results as the bloodless treatment, and is in general to be preferred.—*Edin. Med. Journal*. September, 1912. P. 227.

IV. IRON METABOLISM IN PERNICIOUS ANÆMIA.

ACCORDING to Kenerknuht normal urine contains daily about one milligramme of iron and normal faeces twenty-five milligrammes. In anæmia, especially pernicious anæmia, and in myelogenic and lymphatic leukæmia, an increase in the output of iron in both urine and faeces is often found. There are some anæmias in which this increased output accompanies a great breaking down of either red or white corpuscles or of both. In chlorosis a lessened output of iron is the rule, and some stages of pernicious anæmia also show a lessened output. The increased output in leukæmia is probably more often due to lessened storage in the spleen than to increased cell destruction. During an X-ray course of treatment there is no increase of iron output as compared with untreated cases of leukæmia.—*Virchow's Archiv.* Bd. 205, i.

V. OPTIC NEURITIS IN INFECTIOUS DISEASES.

DUBOIT reports the observation of two cases of optic neuritis following measles, of one case after scarlatina, one case after typhoid, and two cases after influenza. The symptoms appeared in measles fifteen and seventeen days, in scarlatina nineteen days, and in typhoid twenty days after the onset of the sickness. In influenza the appearance of the neuritis coincided with the onset of the other symptoms. The clinical symptoms in general and the results of lumbar puncture enable in all cases meningitis to be excluded. The result was in every case favourable.—*Archiv. f. Augenheilk.* LXXI., i. s. i.

VI. TREATMENT OF PNEUMONIA BASED ON THE ELIMINATION OF SODIUM CHLORIDE.

CHEMICAL analysis of the exudate in the pulmonary alveoli in pneumonia shows that it contains a high percentage of sodium chloride. The urine, on the other hand, contains during the same period only a small proportion of the salt. For some hours before the crisis and during several days subsequently large masses of chloride again appear in the urine. The danger of the crisis consists of heart

failure, and this is increased by the sudden setting free of the sodium salt in the blood. Now certain substances, such as potassium nitrate, can replace the sodium chloride in the blood plasma, and when this is given in large doses, according to Hughes, the temperature soon falls to normal, although the physical signs may persist, and ultimately resolution begins and convalescence is established without crisis. Sixty grains of the potassium nitrate are given every third hour during the first day, and then is continued in diminishing doses. The diet during the whole period of the disease must be free of sodium chloride.—*New York Med. Journal*. 1911. No. XI.

VII. BENZOL IN THE TREATMENT OF LEUKÆMIA.

KIRALYFI has treated a series of cases of splenic leukæmia with large doses of benzol administered internally, and states that under its influence leukæmic blood rapidly improves. The number of leucocytes in one case fell from 300,000 to normal, and at the same time the spleen diminished very much in size. No change, however, was observed in the relative proportion of the different varieties of white cells. The writer sees in benzol an agent which excites a powerful influence on the hæmatopoietic system.—*Wien. klin. Wochenschrift*. 1912. No. 35.

VIII. BILATERAL BRACHIAL NEURITIS.

HOFFMANN points out that acute bilateral brachial neuritis is rare, and at the same time a most important disease to recognise inasmuch as the prognosis in such cases is so much more favourable than in other forms of arm paralysis. He has observed three cases, all of which presented somewhat similar symptoms. One of these, a labourer, aged sixty, woke one night with acute pain and loss of power in both arms. Reaction of degeneration soon set in, and was followed by muscular atrophy, pain, paræsthesia, and later complete loss of sensation. Treatment by electricity, massage, and other means brought about an almost complete cure. Both the other cases completely recovered. Such cases closely resemble acute poliomyelitis: the onset is sudden, and often at night,

paralysis rapidly reaches a maximum, tendon reflexes are absent, and muscular atrophy sets in. Furthermore, pain is not unknown in cases of acute poliomyelitis. The differential diagnosis depends on the absence of severe general symptoms, the symmetry of the affection, the long duration of the pain, the complete anæsthesia that sets in later, and sometimes on the typical nerve distribution of both the motor and sensory paralysis.—*Münch. med. Woch.* 1912. No. 9.

IX. X-RAY INVESTIGATION OF SPASTIC CONSTIPATION.

SINGER and Holzknecht have studied the condition of the colon in cases of spastic constipation by means of X-rays, subsequent to rectal injection of about 1,700 c.cs. bismuth solution per rectum. By this means it can be clearly demonstrated that in the large majority of such cases the diameter of the distal portion of the colon is much diminished. Under normal circumstances the diameter of the bismuth shadow in the colon measures from 4 to 6 centimetres, but in spastic constipation it is only from 2 to 3 centimetres. This is in accordance with the general idea that so-called spastic constipation is actually due to hypertonus of the bowel. In the proximal part of the colon, on the other hand, a normal tonus prevails, and the actual boundary between the two parts into which the colon is thus divided—namely, the hypertonic part and the normal part—may exist anywhere from the hepatic flexure to the end of the descending colon.—*Münch. med. Woch.* 1911. No. 28.

X. A NEW HYPNOTIC.

GEISSLER reports his experiences with luminal, a new hypnotic, whose chemical constitution warrants the name phenylethyl barbituric acid. It differs from veronal by the substitution of an ethyl by a phenol group. It is soluble with difficulty in water, but readily dissolves in feeble alkaline solutions, from which it can be again precipitated by the addition of an acid. Its hypnotic properties are usually seen after a dose of .2 to .3 gramme, but .4 gramme produces sleep with certainty. The sleep is deep

and dreamless, and is not followed by any headache. The drug can be given subcutaneously, and indeed produces the best effects when administered in this way. It is particularly useful in cases of great excitement with muscular restlessness, such as mania, delirium tremens, &c., and in such conditions is an effective substitute for hyoscin.—*Münch. med. Woch.* 1912. No. 17.

XI. SPLENIC ANÆMIA CURED BY OPERATION.

KLEMPERER and Mühsam report a case of splenic anaemia occurring in a man aged thirty-six. The red blood corpuscles numbered two and a half millions, the white cells were normal, and the spleen was enormously enlarged. The case was not one of aplastic leukamia, nor of Banti's disease, and was regarded as typical splenic anaemia. After failure to effect any improvement by other means, operation was advised, and the spleen was removed. Two months later the red cells numbered five and a half millions, and a gain of twenty pounds in weight was recorded—*Berlin klin. Woch.* 1912. No. 22.

NEW PREPARATIONS.

“TABLOID” “EPININE” COMPOUND, recently put on the market by Messrs. Burroughs, Wellcome & Co., contains gr. 1/1,000 of “Epinine” (the synthetic substance with adrenaline-like action discovered by this firm) in combination with suitable small doses of heroin hydrochloride, ipecacuanha, benzoic acid, and oil of gaultheria. It is intended to be sucked, so as to secure the local application of these drugs to the mucous membranes of the throat. The product is made with a demulcent base, and dissolves slowly in the mouth, thus ensuring prolonged contact of the medicaments with the affected parts. The vaso-constrictor and astringent action of “Epinine” and the sedative, expectorant and antiseptic effects of the other constituents make the product a very useful one for congested and irritated conditions of the pharynx and larynx. It should prove particularly valuable to singers and public speakers. The taste is agreeable, and the quantity of each ingredient is such as to allow of frequent repetition of the dose. “Tabloid” “Epinine” Compound is supplied in bottles of 25 and 100.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

BRONCHO-PNEUMONIA AND ITS COMPLICATIONS IN INFANCY.

By PROFESSOR L. CONCETTI, Professor of Pediatrics in the Royal University of Rome. Translated from the "Rivista Ospedaliera," Vol. II., No. 8, by GEORGE MAHOOD FOY, M.D., F.R.C.S.I.

DURING the Session 1911-1912 we have had in our clinique many infants suffering from broncho-pneumonia with many complications—lobar pneumonia, empyema, and so-forth. The greater number of these infants were the subject of clinical demonstrations to students and to physicians who attended our professional classes.

We desire to review the subject of our clinical lectures—a disease frequent in infancy, and often of a serious nature. We do so not with the idea of adding anything new, but in the hope of providing material useful in medical practice as a guide in dealing with cases oftentimes embarrassing from the gravity of their symptoms, and in a special sense from their complications, which increase the difficulties both of diagnosis and prognosis. We think it necessary to preface the majority of the cases referred to in this lecture with a brief summary of their history, whilst the others will be noted in the general statements that follow.

1. An infant, twenty-eight months old, ill for forty-five days with a cough, difficulty of breathing, sighing respiration, and fever of an intermittent type. During his first twenty days in hospital he had a daily rise from 100° to 105° , followed by a gradual lowering of temperature for twelve to twenty-four hours. After a fall of temperature lasting for three days he had two accessions to 104° , of short duration, and finally a fall of temperature which lasted until his discharge from hospital. The broncho-pneumonia was of the pseudo-lobar type, and occupied the inferior lobe of the left lung. It was accompanied by a pleuritic friction

sound. An exploratory puncture did not find any fluid in the pleura; an examination of the blood gave negative results for malaria and fibrinosis; leucocytes few. The thoracic signs were those of bronchial catarrh. During the pyrexial period the local symptoms were more accentuated and they almost disappeared in apyrexia; this even applied to the friction sounds of the dry pleurisy; we were, however, able to secure a tardy resolution. No further symptoms of any gravity developed, and the child was discharged with a slight catarrh, and an increase of weight from 18 lb. 7 oz. to 20 lb. 14½ oz.

II. An infant, twenty months old, one month ill, cough, breathlessness, high temperature with remissions for two weeks. The previous day it got a relapse, with nasal catarrh, cough, dyspnœa. It was admitted into hospital with a temperature of 104°, diffuse bronchitis and broncho-pneumonia of the superior and middle zone of the right lung, inflamed fauces, cutaneous fibrin reactions negative. The following day the fever oscillated from apyrexia to 103°. Condition generally good. Discharged cured after fifteen days in hospital.

III. Infant of eleven months old, ill for ten days; for two days he was in a state of high fever, and suffering from indigestion, from which he recovered. The day before the elevation of temperature it suffered from a wild storm of symptoms, cough, dyspnœa, agitation, short and sighing respirations, rickets, with hepatitis and splenomegaly; diffuse bronchitis with foci of broncho-pneumonia throughout the whole left side of the thorax, more marked at the base. He was restless, with frequent complainings. The temperature fell daily from 103.8° to 98.6°, and for five to six days oscillated from 100.4° to 102°; the pulse fell from 172-160 to 150-130 and the respirations from 48 to 40. He became quiet; after three days the objective phenomena were absent in the upper portion of the lung, and greatly improved at the base. The last day the temperature was 98.6°, with symptoms of hypostasis at the base of the right lung, fine crepitation; but in the morning these symptoms were gone, and the temperature was 96.8°.

IV. An infant, nineteen months old, rachitic, ill for five days with bronchitis and broncho-pneumonia at the base of the left lung; temperature 103.5°, with remissions to 101°.

and by lysis to normal on the tenth day; pulse 140-150, falling to 100.96; respirations from 58-40 to 42-39; tuberculine reaction positive; fibrin reaction negative. Discharged cured after fifteen days.

V. An infant, seven months old, always dyspeptic; ill for three days with broncho-pneumonia at the base of the right lung, and diffuse bronchitis of both sides, dyspnœa, sighing respirations, very dull. Temperature 103.2° to 100.4° , falling to 100.4° ; after three days the temperature gradually fell until it reached normal on the ninth day. Discharged cured on the thirteenth day.

VI. An infant, three years and a half old, ill for six days with acute diffused bronchitis and broncho-pneumonia of the base of the right lung. Temperature 99.6° , reaching on the fifth day 105° , from which it fell gradually for eight to nine days to normal. Having a temporary rise of 2° , caused by a sinapism to the back. The case was complicated by purulent cystitis, which was cured by helmitol; but it retarded the discharge of the patient for days.

VII. An infant of three years and four months, with broncho-pneumonia of the upper and middle lobes of the right lung for ten days. Initial temperature 102.2° , rising to 104° , with cough, dyspnœa, and sighing respiration. By the third day the prognosis was doubtful, the child was dejected, restless, and suffering from purulent cystitis. He was of a lymphatic constitution, and had a varicosity on the upper border of the thorax, the sign of Smith's disease (tracheal-bronchial-adenopathy). Discharged after seven days without the local resolution being quite complete, and with an evening temperature of 99.2° .

VIII. An infant of two months old, suffering from coryza and cough for seven days. On the third day the temperature was very high, and accompanied with dyspnœa, restlessness, cyanosis, and refusal to take the mother's breast. The condition was of the utmost gravity; temperature 104.2° , respirations superficial 92-100, pulse 200, and almost imperceptible. From time to time there were exacerbations of cyanosis, followed by pallor and cessation of breathing, for which we from time to time immersed the infant into hot water (104°), and practised artificial respiration, the inhalation of oxygen, and hypodermics of caffeine, strychnine, sparteine, camphor, digitaline, and so-

forth. Two injections of 5 cms. were daily given electrolytically. The food consisted of milk drawn from the mother's breasts and given off a spoon. All the objective symptoms indicated diffuse bronchitis and broncho-pneumonia of the superior lobes on both sides of the thorax. After three days between life and death the symptoms showed signs of improvement; the temperature fell to 101.4° - 99.2° , the pulse from 140-130, the respirations to 42; the child began to draw the breasts, and so throve that his weight increased by 100 gr. in three days. He was discharged almost cured, and this treatment was continued in his home, by one of our assistants, until the cure was completed.

IX. An infant of two years of age, who for fourteen days was suffering from broncho-pneumonia, which had gradually involved the whole of the right lung with pleuritic friction sounds in the axilla. Six days afterwards paroxysms of convulsions with spasms of the neck and limbs, general prostration, prognosis unfavourable. Temperature 103.8° - 101° , pulse 160-300, respirations 60-84; deep cyanosis of the lips, exaggerated reflex of Babinski. Heart sounds muffled; albuminuria and cylindruria; fibrinosis diagnosis negative. A lumbar puncture removed 12 cme. of clear fluid, with 0.5 of albumen and a few lymphocytes, and gave great relief to the nerve syndromes; the pulse fell to 140, respirations to 45, and the temperature to 100.6° . In fourteen days the temperature became normal, resolution followed, but a slight pleuritic friction sound continued.

X. An infant, three years old, with a cough for the previous eight days, the latter three days of which she was in a high fever, suffering from dyspnoea, deeply cyanosed; respirations frequent, shallow, and painful; slightly rachitic, with enlargement of the liver and spleen. Broncho-pneumonia at the base of the right lung, gradually extended little by little to the apex. For five to six days the child was in a very critical condition; temperature from 103.5° to 105.4° , pulse 140-160, respirations 60-70; vomiting uncontrollable, purging copious, face Hippocratic, restless, delirious, neck and limbs rigidly contracted, reflexes excessive, dermatography and Kernig. A lumbar puncture withdrew 25 cme. of normal, limpid fluid. Bilateral suppurating otitis, with an abundant discharge of pus, partly relieved the nervous symptoms. Improvement commenced, the pulse

lost its arrhythmic character, and the child was discharged cured after twenty-seven days.

XI. An infant, one year old, rachitic, came on foot, with broncho-pneumonia of the base of the left side; commenced with a high fever and irritating cough, short breathings, shallow and sighing. Was not very bad. The mother unwilling to leave it. Cured.

XII. An infant, eight months old, suffering for two days with a slight fever, which after three days became severe, with cough, dyspnœa, sighing respiration, and loss of strength. For two days the temperature oscillated from 103° to 105.8° until the crisis; after two days it rose again to 102.5° , with a short fall for four days, coming down from 102.6° to 96.8° . The broncho-pneumonia was located at the base of the right lung, complicating which was a diffuse bronchitis. During the recrudescence of the fever the local symptoms invariably returned and invariably disappeared during the apyrexial stage. The tubercular test was negative. Discharged cured after nine days' treatment.

XIII. An infant, two years old. A little brother died of tubercular meningitis. A year ago had an attack of simple broncho-pneumonia. He had a return of the disease on the 3rd of February, 1912, with a high fever, with marked remissions of temperature, cough, dyspnœa, and so-forth. The broncho-pneumonia commenced at the base of the right lung, and gradually extended so as to include the whole viscus, and after two weeks was attacking the left side with repeated blows. With invasion of the left lung symptoms of meningitis arose, agitation, constant lateral shaking of the head, sleeplessness, spasmodic workings of the facial muscles. In this case 60 cmc. of normal fluid were drawn off by a lumbar puncture. On admission to hospital on the 20th of February, the patient was in a state of prostration, dyspnœic, deeply cyanosed; temperature 100.4° to 103.6° , pulse 130 to 160, respirations 46 to 60. The meningeal symptoms softened in severity after the lumbar puncture, as we anticipated; a second puncture gave exit to 40 cmc. of normal fluid. After this all the unpleasant symptoms disappeared, as did a purulent discharge, which was coming from the right ear. Discharged cured.

XIV. An infant, eighteen months old, treated as an extern patient for broncho-pneumonia of one month's

standing, which extended from the posterior inferior lobe of the left lung laterally towards the anterior border of the axilla. General outline well defined, febrile attacks followed by marked remissions and intermissions, antagonising the local processes; cough alternately dry and moist; little difficulty of breathing. Cured.

XV. An infant of twenty months old, rachitic, varicosity of the frontal veins, ill for a month, first from acute bronchitis, and after twelve days with bilateral broncho-pneumonia of the apices. The initial stage was very grave, with prostration, dyspnoea, continuous sighing respiration, enlargement of the liver, temperature from 104° to 99.4° , pulse 160, respirations 64. Appeared notably sinking, dull, neck rigid, sighing, dermatography, hands firmly closed, and paroxysms of convulsions. We suspected meningeal tuberculosis. By lumbar puncture we removed 20 cme. of fluid by drops; this formed characteristic reticulations like a cob-web, contained 1.5 per cent. of albumen and many lymphocytes in the sediment. Death occurred on the third day. An autopsy was not permitted, but the character of the cerebro-spinal fluid left no doubt of the presence of tuberculosis. The tuberculin test was, however, negative.

XVI. An infant, seven months old, sick for a month with capillary bronchitis, of which it was cured in twelve to fifteen days. Unfortunately he was seized with an adenopathic cervico-maxillary abscess of the right side in the temporo-parietal region; the abscesses were opened, dissepiments broken down, fistulæ split, and necrotic masses removed. On the eighth day there was a recrudescence of the bronchitis, and four days later symptoms of broncho-pneumonia at the base of the left lung with acute fever, temperature 105° to 100.4° , pulse 132-194, respirations 40-60, followed by grave nervous syndromes, stupor, rigidity of the neck, trunk, and limbs. From the ulcers on the head erysipelas spread all over the hairy scalp. The spleen and liver extended three fingers' width below the thoracic arch. Fibrin test negative. Lumbar puncture brought away 40 cme. of limpid fluid, by drops, with 0.6 per cent. albumen, with lymphocysts in the sediment. Death in six days. Autopsy not permitted.

XVII. An infant of ten months old, ill for eight days with broncho-pneumonia, which involved the whole right lung,

and of late created foci in the left one; it also suffered from bilateral purulent otitis, with a spontaneous discharge of pus. After four days we detected an increased dulness and a diminution of tactile fremitus, which caused us to suspect the presence of pleurisy at the base of the right lung, so we aspirated and removed 40 cmc. of yellow pus, rich in diplococci. Temperature ranged from 104° to 98.6° and 96.8° , pulse 120-160, respirations 40-82. Successive aspirations yielded 70-20-40 cmc. of pus, but finally we had to perform pleurotomy with resection of 4 cm., of the seventh rib. We came on a vast cavity, about half the capacity of the thorax, containing thick layers of grumous fibro-purulent matter. That day he rallied well, but new foci of broncho-pneumonia appeared in the left lung, with loss of strength, dyspnœa, sighing respiration, restlessness, yellow discoloration of the skin, purging, with convulsive spasms of the facial muscles and the upper extremity of the right side. Death in a month from exhaustion. The autopsy revealed bilateral broncho-pneumonia, fibrino-purulent pleurisy of the right side, abscesses, as large as a pigeon's egg, in the anterior mediastinum, turbid tumefaction of the kidneys and liver; the nervous tissue was not examined microscopically.

XVIII. An infant, eighteen months old; when aged four months was in hospital from great atrophy. He left after two months, having increased in weight from 3.470 kg. to 5.540. Up to six days prior to admission he was in excellent health, although slightly rachitic, when he was attacked with broncho-pneumonia of the inferior lobe of the left lung. It was very ill, dyspnœic; temperature 104.2° - 105.5° . After three days it was much improved, and in thirty-six hours the temperature fell to 98.6° , with general betterment of his condition. On the fifth day the temperature suddenly jumped to 105° , and for five days oscillated from 102.5° to 104.2° . There was a relapse of the pneumonia on the left side involving all the base, and causing foci in the right side, with pleurisy as a complication in the base. By puncture we removed 40 cmc. of sero-purulent fluid, with great numbers of diplococci; this produced some improvement, with partial resolution of the inflammation on the left side. The pulse fell from 180-200 to 130; but in two days the temperature rose to 104.2° . The pulse became imperceptible, the dyspnœa became intense (89-90), cya-

nosis, cold sweats, mydriasis, oliguria (50 gr. in twenty-four hours), albuminuria, convulsions, and death twelve days after admission and eighteen days from the onset of the disease. At the autopsy we found, besides the bilateral broncho-pneumonia, purulent pleurisy on the right side, acute myocardial dilatation, parenchymatous nephritis. No macroscopic examination of the cerebrum or meninges.

XIX. An infant, seven months old, eight days ill with broncho-pneumonia, involving the whole of the left side; temperature 103.6° , pulse 198-160, respirations 62-69, deeply cyanosed. Six days after the access of the sickness there was a distinct improvement, with resolution at the base; but this was followed by symptoms of the formation of new foci in the right side, vomiting, spasms of the muscles of the face, staring eyes, which gave the impression of meningeal irritation. A lumbar puncture removed 35 cme. of turbid fluid containing polynuclear cells, pus cells, and diplococci. The following day there were paroxysms of convulsions, strabismus, rigidity of the neck, the trunk and contracted limbs, and mydriasis. In this state she remained, and died on the tenth day in hospital. The autopsy revealed bilateral broncho-pneumonia, fibrino-purulent pleurisy of the right side, meningitis of great extent, going from the anterior convexities of the cerebral hemispheres to the base and from the cerebellum to the medulla oblongata. On the inferior surface of the frontal lobe of the left side there was an encephalic hæmorrhagic clot.

XX. An infant of six months old, after a week of sickness, with disturbed digestion, restlessness, &c., &c., was attacked on the morning of the eighth day with broncho-pneumonia, involving the whole of the left lung, with increase of tactile fremitus, in a truly grave state, dyspnoea with sighing, cyanosis, enlargement of the spleen; temperature 102.2° to 109.4° , pulse 150 to 180, respirations 60 to 90. After three days there was coma, staring eyes fixed on vacancy, myosis. Lumbar puncture removed 30 cme of a turbid fluid, with 0.75 per cent. of albumen, polynuclear cells, pus, and encapsulated diplococci. The nervous symptoms were accentuated, a rigid neck, convulsive movements of the right superior limb and of all the muscles of the face, rigidity of the right inferior limb. The cyanosis has become more intense, the pulse is almost imperceptible, and the

child died on the seventh day. The autopsy revealed broncho-pneumonia of the left lung, a layer of fibro-purulent pleurisy, which covered a portion of hepatised lung, with a small quantity of fluid, fibrino-purulent pericarditis, both parietal and visceral, turbid tumefaction of the kidneys, and a purulent meningitis involving the coverings of the anterior convexity of the cerebrum, the base, involving the roots of all the cranial nerves. The rest of the meninges were hyperæmic, with hæmorrhagic spots; also, the cortex and white substance of the cerebrum were very hyperæmic. Nothing was learned of internal hydrocephalus.

XXI. An infant of eleven months was seized with enterocolitis of the dysenteric type, from which he recovered, though with a loss in weight of from 8.05 to 6.60 kgr. Afterwards he developed purulent bilateral otitis, and finally broncho-pneumonia of the apex of the left lung, with purulent diplococcic pleurisy at the base of the same side. Four aspirations were made, and 70, 50, 15, 15 cms. of pus were drawn off; an ulcer formed under the tongue, multiple subcutaneous abscesses rich in staphylococci developed, hæmorrhagic maculæ appeared under the skin, œdema of the feet (urine normal). On the 5th of January, 1912, we performed pleural costotomy, and that night the child died with phenomena of collapse. Autopsy not permitted.

XXII. An infant of three years old, suffering for eight days with broncho-pneumonia involving the whole of the right side. After two days œdema of the face appeared, and afterwards the inferior limbs became œdematous, urine scanty. Tactile fremitus was exaggerated in the upper portion of the lung, but inferiorly there was femoral dulness; an exploratory puncture drew off 5 cms. of a limpid, clear, yellow, albuminous fluid, containing some lymphocysts.

On the following day the dulness was less marked, and pleuritic friction was present. An exploratory puncture gave negative results. The general condition very serious, distressing dyspnœa; temperature 103.8°, pulse 160, respirations 58, urine scanty, with 8 per cent. albumen, granular casts, leucocytes, great emaciation. The nature of the fluid drawn from the pleura, its rapid exudation, tell of an inflammatory origin, a hypodermic flushing, very sudden, of the kind described by Hall and Armand-Delille, which they consider as typical in cases of broncho-pneumonia

(Vol. IV., *Pratique des Maladies des Enfants*), forms which we find more associated with renal complications. In spite of the use of the bromine and chloride of calcium, the injection of digitalin and camphorated oil, warm baths (104.2°), followed by inunction of olive oil and wrapping in wool, and so forth; after a temporary fall in temperature the child died of exhaustion. At the autopsy we found bilateral broncho-pneumonia, pleuræ normal (confirmatory of our hypothesis on the hyperæmia pleuritic exudation), hæmorrhagic exudation within the epicardium, dilatation of the whole heart, great congestion of the liver (gr. 570), acute enlargement of the spleen (gr. 30), enlargement of the kidney from parenchymatous nephritis.

Broncho-pneumonia is essentially a disease of early life, which lobar pneumonia very seldom is, although there are some pediatric physicians who say that they saw cases under three years of age and some under two years. It is an exaggeration to say that they have seen many cases in sucklings, and that they were not without seeing cases of congenital lobar pneumonia, caused by pneumococci of the mother during the latter months of pregnancy. In such circumstances we get a septicæmia in the fœtus and the newborn, and by diffusion it may excite a true lobar pneumonia, from the affinity between the pneumococci and the lung tissue (such as we find between the meninges and the meningococci, between the tetanus bacillus and the nervous system, and so forth). If this poison of the maternal lung is sent by the blood-current of the placenta to the lung of the fœtus whilst in a receptive condition for its absorption, we get a similar condition to that which results in nephrotoxins and hepatotoxins.

Sometimes it is difficult to distinguish a broncho-pneumonia from lobar pneumonia in cases of the acute pseudo-lobar type, or when it occurs in a child suffering from diffuse bronchial catarrh. But we should recollect that whilst in lobar pneumonia, as a rule, for the first day the auscultatory and percussion signs of pneumonia are wanting, they may also be wanting in broncho-pneumonia, or may be so modified as to simulate symptoms of bronchitis. Briefly, in lobar pneumonia, unless by a coincidence, the bronchial symptoms are absent; they are ever present in broncho-pneumonia. The absence of the objective signs of lobar pneumonia may be caused by the initial pulmonic exudation being

in a central position or in an angle of the posterior mediastinum, covered by a more or less thick layer of healthy, aerated lung tissue; and it is not infrequent for the souffle and percussion dulness to be postponed for three to four days after the beginning of the attack, and up to the crisis. Still, in broncho-pneumonia, while we may not get the symptoms of thickening of lung tissue, we do not fail to get those of bronchitis. We have the quick respirations in which we find a resonant tone, with increased vocal resonance in speaking and crying, together with a tympanic note which serves to localise the deep deposit of inflammatory exudation; and collectively and separately they aid in forming a diagnosis seldom as uniform as is that of lobar pneumonia, because the lobule of hepatised tissue is covered by a healthy portion of lung, and an exaggerated resonance may be present when the overlying tissue is emphysematous. The temperature in broncho-pneumonia, although it may rise to that of lobar pneumonia, yet if present is ever interrupted by marked remissions and occasionally by absolute intermissions, which are unusual in lobar pneumonia; and whilst in the former the resolution is by lysis, in lobar pneumonia it is by crisis. Finally, it is seldom that resolution in broncho-pneumonia does not leave a residue more or less protracted of catarrhal bronchitis and an evening rise of temperature, whilst in lobar pneumonia such a sequela is unknown.

One test of considerable value we have is that known as fibrin diagnosis. This, although not always present in broncho-pneumonia, as some of our cases show, is almost ever present in lobar pneumonia. Place a drop of blood, drawn from the patient's finger, on a glass slide, and apply a glass cover, and with a good lens power you may see fine fibrous filaments forming between the blood cells a fine reticulation. This is not the macroscopic demonstration of the firm fibrous clot, the celebrated fibrinous phlogistic layer of our forefathers, formed on the blood drawn by phlebotomy in pneumonia. Contemporaneously, in this same preparation, you may observe another hæmolytic character of lobar pneumonia—namely, an abundant leucocytosis that is absent in broncho-pneumonia—and this may be verified by counting the blood-cells. The positive reaction we have been able to verify in some of our infants suffering from lobar pneumonia.

XXIII. An infant, two years old, feverish for six days:

the temperature suddenly rose, and no remission followed, dyspnœa and occasional fits of coughing. On admission, the base of the left lung and under the axilla was dull on percussion, tubular breathing and no mucus. Fibrino-diagnostic test positive. The following day the temperature was 96.8° , the souffle was less pronounced, and gradually disappeared on the following day; there remained a pocket of râles, which also rapidly went off.

XXIV. An infant, three years old, ill for five days. Temperature remained steadily over 104° , diminished vocal resonance, and bronchial at the base of the right lung, no râles; general condition weak, some dyspnœa, 35-40 respirations, pulse 110-120, occasional fits of coughing. Fibrino-diagnostic test positive. The temperature fell on the seventh day to 96.8° . Then the child fell into a state of great gravity: diarrhœa, restlessness, lateral oscillation of the head, pulse very small and frequent (180), eyes retracted and surrounded with a dark margin, tremors and absolute insomnia. A lumbar puncture withdrew 3 cme. of limpid fluid in drops, with 0.15 per cent. of albumen, which did not form reticulations and gave but few lymphocysts in the sediment; culture test negative. Every six hours we gave hypodermiolysis, with 100 cme. of physiological serum, and injection of $\frac{1}{3}$ to $\frac{1}{2}$ of a cme. of a solution of the neutral sulphate of strychnine and sparteine (5 cme. of the former and 50 cme. of the latter in distilled water), and every four hours an injection of camphorated oil, 10 per cent.; water as the only sustenance for twenty-four hours, afterwards milk. He quickly responded to treatment, and after a few days was well. He was certainly suffering from a toxin with hydros cerebro-spinalis—a condition frequently found in the initial stage of lobar pneumonia in children, one from which they make an excellent recovery.

XXV. An infant, four years old, ill for three to four days, with a temperature of 104.2° , pulse 120 to 130, respirations 30 to 40; without difficulty of breathing, sighing respiration, or movements of the alæ nasi. An examination of the thorax revealed no sign of respiratory disease. But by strong percussion in the supraspinous region we found a dull area in the right side, and when the child cried we got an evident increase of the vocal and tactile fremitus; then a vesicular sound, and again a more or less clear one. On

these symptoms we based our diagnosis on a central pneumonic nodule in the apex of the right lung. On the following day we detected an expiratory soft souffle, in a point limited between the inner border of the scapula and the spinal column, and this continued for days without the temperature falling by crisis to normal. Neither prior to nor after it were râles present. We present this case to demonstrate the liability to err in the diagnosis in such, and to show that many such cases of pneumonia pass unrecognised.

Broncho-pneumonia is oftentimes a secondary disease, occurring during the course or convalescence of an infectious disease—measles, influenza, whooping-cough, diphtheria, typhoid and soforth. That it is so much more frequent, and so much more catching in childhood, is due to the weakness resulting from gastro-intestinal troubles, to atrophy, rickets, and soforth. It is largely due to the hospital atmosphere, especially that contaminated by large numbers of sick children crowded together, when it is propagated as a true contagion, and assumes an exceptionally grave form. In our isolated beds the highest figure of mortality, especially in measles (which in our private practice does not exceed 2 to 3 per cent., in our hospital beds—isolated—over 25 to 30 per cent.), is due to broncho-pneumonia. In autopsies on children who have suffered from atrophy, it is not unusual to come on broncho-pneumonia which had not been recognised during life. In hospital the mortality of patients with broncho-pneumonia is from 60 to 75 per cent., whilst in private families it does not exceed 15 to 20 per cent. Overcrowding of the sick facilitates the passage of the pathogenic germ from one to another, and intensifies its virulence. It favours the rise of complications by insemination of the serum, the kidneys, and soforth, as we verify in some of our cases—those which we cite as unusual. The lethal character of broncho-pneumonia is another characteristic difference between it and lobar pneumonia, in which, during childhood, the mortality is 1 to 3 per cent., and even less, when free of complications. In these cases attacks with very grave symptoms terminate favourably, as in our own case XXV.

Broncho-pneumonia may arise idiopathically, although very many say of this form that it is due to influenza. Now, in Rome, we have epidemics of uncomplicated influenza, and we have had in many of the infants, prior to

the sickness, fever, not high, sneezing, irritation of the fauces, cough, bronchitis, and so forth, followed by a well-marked fever, dyspnoea, sighing respiration, and so on, showing no symptom of broncho-pneumonia. Therefore, although in this case we frequently find the pathological elements of broncho-pneumonic influenza, diplococci or streptococci—hospital *habitués* of the respiratory *prima via*—we become convinced by act and deed of the influenzal infection. In broncho-pneumonia the polymicrobes found are numerous. We give some statistics of its pathogenic flora.

	Hertinel		Dürck
	Monomicrobe.	Polymicrobe.	Polymicrobes in 39 cases
Pneumococcus .	40%	45.26%	33
Streptococcus .	32%	54.76%	14
Staphylococcus .	20%	30.95%	21
Pneumobacillus .	8%	14.28%	12
Bacillo-diphtheria	—	—	11
Bacillus coli com.	—	—	21
Sarcina, &c.	—	—	8

Meunier, in ten cases of post-influenzal broncho-pneumonia, found the bacillus of Pfeiffer eight times, and twice he found it associated with pneumococci. During the greater part of their researches Hertinel and Dürck ignored the bacillus of influenza; indeed, they are not included in the statistics of either of these observers. Broncho-pneumonia is to be considered as a sepsis of the respiratory system, of origin, for the most part, of a bronchogenic descendent. Often the infection originates in the naso-pharyngeal-buccal-cavity, and with greatest frequency in hospital, from microbes loaded with infective matter which infect the gastro-intestinal tract. For the past year we have dropped into the ears of each child coming to our clinique some drops of an antiseptic—menthol 1 per cent. or collargol 5 per cent. This appears to us to have a preventive action—our cases of broncho-pneumonia being less numerous and of a milder type. The propagation of the infection by the fine bronchi to the alveoli is facilitated in infants by their feeble respiration, by the swallowing of their phlegm in coughing from inability to spit it out, by their prolonged dorsal decubitus, by the vitiated air and confined space, compared with those

of a more advanced age, resulting from their narrow respiratory tubes, as the following tables of measurement show:—

Age of Infant.	Trachea.	Bronchi.
At birth . . .	6 mm. . .	0.05 mm.
1 year old . . .	6 mm. . .	0.10 mm.
2 years old . . .	6.5 mm. . .	0.10 mm.
4 years old . . .	7.5 mm. . .	0.12 mm.
6 years old . . .	8.0 mm. . .	0.12 mm.
15 years old . . .	10. mm. . .	0.12 mm.
25 years old . . .	10.0 mm. . .	0.20 mm.

In the prematurely born, feeble, and atrophic the conditions are accentuated, and in those which die, especially in hospital, it is unusual, as we have said, not to find broncho-pneumonia, which, as a rule, was not recognised during life. The usual answer to the suggested question is:—The child had no cough, no difficulty in breathing, no fever, but, on the contrary, was of a subnormal temperature. The newly-born and sucklings have a special predilection for infections that do not give immunity (*diplococcus*, *streptococcus*, *staphylococcus*, *Bacillus coli com.*), these are they which excite broncho-pneumonia. Catarrhs of the respiratory tract, which in the adult are as a rule mucous or muco-purulent, in the suckling become quickly purulent, with a rapid destruction of epithelium, with septicæmic infiltration of the glands with numerous extra pulmonary foci: the lymphatics become more numerous, more ample, favour the diffusion of the septic matter to the neighbouring viscera (pleura, pericardium). We have had many such cases pass under our observation.

Other pathogenic conditions furtively threaten the new-born and the suckling—that is, the inflation of infected amniotic fluid, and vaginal secretions, and during suckling, when the infant suffers from congenital malformation of the mouth and the palate, or cannot readily swallow from defective enervation of the muscles concerned in deglutition (paralysis, spasms). Yet simple broncho-pneumonia may result from hæmorrhage, without precedent bronchitis, and in the absence of infection. They further enumerate among the exciting causes of broncho-pneumonia one of enteric origin, in which the *Bacillus coli com.* or the *Streptococcus enteritidis* commences by creating a peri-bronchitis with secondary transparietal extension to the alveoli. We have seen some microscopic preparations demonstrating this which

which were shown by Escherich in the pædiatric section of the International Congress of Medicine held at Rome in 1894.

Broncho-pneumonia is, especially in infants, a true protean disease, both from the anatomical and clinical point of view. And that it substantially differs from lobar pneumonia, an essentially cyclic disease, and in severity and duration is more uniform (save variation in site, in extension, in virulence, and toxins), and that the anatomical lesion consists, as a rule, in an endo-alveolar exudation, with no, or very slight, effect on the lung tissue, in which, after the pouring out and rapid dissemination of the same, it appears normal, or almost so, save for a more or less obvious œdema, or, more rarely still, a nidus of induration. Sometimes in broncho-pneumonia all the pulmonary tissues participate in the changes, to a greater or less degree, in extent and gravity, every case is singular—that is to say, no two cases are alike, and the pathological changes in one lobule are different from those in the lobule next it.

For the better understanding of the symptomatology, recalling briefly the many changes that undermine the various lung tissues, of which some are fundamental, we have ventured to form a scheme of broncho-pneumonia. Other changes are *accessory*, in the sense that they have little or no influence on the symptomatology (Cadet de Gassicourt).

LESIONS.

Fundamental.			Accessory.	
Bronchitis	.	.	}	Emphysema; intra- and peri-vesicular
Alveolitis	.	.		
Hyperæmia	.	.	.	Atelectasis
Inf. of the broncho-alveoli and the connective interstitial tissue			{	Hæmorrhage
				Bronchiectasis
				Splenomegaly
—	—			Peri-bronchial adenopathy
—	—			Intra- and peri-vesicular suppuration

There are, besides, the complications which result from diffusion and contiguity, as pleurisy, pneumothorax, pericarditis, laryngitis, mediastinal abscesses, and so on. According to the predominance of one or other of these various lesions, from their extension or gravity or their grouping, and so forth, we get the various forms and different manifestations on palpation, percussion, auscultation, and the permanence or mobility of the various objective sym-

ptoms. These form the pathological anatomical characteristics of broncho-pneumonia. It is this that enables us to say that each lobule and every alveolus present diverse lesions in different stages of evolution; progressive or retrogressive from the lobules and alveoli in connection with it. Beside a lobule full of the elements of desquamation and of leucocytes, more or less full of fibrin (hepatisation, red or grey), with more or less marked infiltration of the broncho-alveolar walls, with or without pathological alteration of the lymphatics or blood vessels, with or without purulent nodules, endo-alveolar, or peri-bronchial, and so forth, we have other lobules interspersed, normal, emphysematous, and atelectic. The permanence of the symptoms is evidence of the broncho-alveolar lesion (hepatisation) and of the peri-bronchio-lobular lesion: the purely local symptoms are interruptedly changeable, migratory, such as are caused by active hyperæmia; this active hyperæmia we find associated with the protean unusual symptoms of the disease. Some are very transitory, lasting half an hour or a day, giving the appearance of foci of pneumonia; they rapidly vanish to reappear suddenly, after a short time, in the same place or in another part of the same lung or in the opposite lung. Some consider this as a distinct form of the disease—abortive pneumonia or “pneumonicula.” Again, other forms multiply their foci by a disruption of initial ones. Sometimes they seem to constitute the initial stage; at times, after two or three attacks, they become localised in a fixed definite form. As a rule these attacks coincide with a sudden rise in temperature, or increased dyspnœa and cough; and their attenuation or scattering coincides with a remission or intermission or a permanent fall of temperature, and an improvement of the local symptoms. Some consider this hyperæmic flushing as a form of reaction, a local defence against the bacterial infection, by virtue of the effusion of leucocytes and of greater quantities of blood serum, which is poured into the threatened area, with its bactericide, antitoxic, and opsonic value, not to speak of the possible results from artificially produced hyperæmia (Bier). From artificial hyperæmia we obtained no available material for the *post-mortem* table. If by this artificial hyperæmia you increase the virulence more or less, and affect the variety of the pathogenic agent itself, in symbiosis with or without another infective agent which has been developed in the course of broncho-pneumonia, you thereby augment the different powers for the reaction of the infant itself, in relation to its

age, to its condition of weakness, congenital or acquired—all the influence possible to afford some special relief to the respiratory obstacle, be it rachitis, adenoids, spasmopholia, thymic hypertrophy, or such like. We shall consider the many complications, easy of inception, that readily may be recognised in the clinique, where the disease is found under every variety of form.

(To be continued.)

INTRAVENOUS INJECTION OF ISOVISCID SUBSTANCES.

MM. ROGER and GARNIER (Société de Biologie), from a comparative study of the effects of intravenous injections of large quantities of isotonic serum and of a liquid both isotonic and isoviscid, find that the serum of Locke can be injected without unpleasant effects in considerable quantity, if the rate of introduction does not exceed 3 to 5 cc. a minute per kilo of the animal, as has been demonstrated by MM. Dastre and Loyer. The amount of urine passed almost equals the amount of the fluid injected. The dilution of the blood is inconsiderable; the count of the red corpuscles diminishes during the introduction of the first 300 cubic centimetres of the fluid; but it becomes stationary, or may even augment when urination becomes frequent and full. With the same liquid of Locke made isoviscid by the addition of gum or gelatine, the effects are very different; after the injection of 150 to 220 c.c. cubic per kilo, the animal becomes dyspnoic, suffers from a muco-sanguineous nasal catarrh, and dies. The autopsy reveals the presence of numerous hæmorrhagic points and œdematous zones in the lungs, and hæmorrhagic infarcts in different tissues. The animal does not urinate during the administration of the fluid; the solution remains in the organism, and when the injection is finished the weight of the rabbit is augmented by a quantity equal to that of the fluid injected. The number of the red cells diminishes in proportion to the addition made to the serum used; the reduction at the beginning of the operation is very great; towards the end, however, it greatly diminishes. If the injection is stopped before a lethal dose has been given, the survival of the life of the animal is inversely proportionate to the amount injected; with $6\frac{1}{4}$ cubic centimetres per kilo the duration of the life was twenty hours, with 31 cubic centimetres it was prolonged to ten days.—*Gazette des Hôpitaux*, No. 54, 85—ième Année, p. 808.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS

For four weeks ending Saturday, October 5, 1912.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended October 5, 1912, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 15.5 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,154,150. The deaths registered in each of the four weeks ended Saturday, October 5, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to the deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality :—

TOWNS, &c.	Week ending				Aver- age Rate for 4 weeks	TOWNS, &c.	Week ending				Aver- age Rate for 4 weeks
	Sept. 14	Sept. 21	Sept. 28	Oct. 5			Sept. 14	Sept. 21	Sept. 28	Oct 5	
22 Town Districts	14.2	14.7	14.5	15.5	14.7	Lisburn -	21.0	16.8	12.6	8.4	14.7
Armagh -	—	—	21.3	14.2	8.9	Londonderry	17.9	11.5	3.8	10.2	10.9
Ballymena	27.5	9.2	9.2	4.6	12.6	Lurgan -	8.3	12.5	12.5	12.5	11.5
Belfast -	12.6	12.8	14.0	14.9	13.6	Newry -	13.1	17.4	8.7	4.4	10.9
Clonmel -	—	15.3	5.1	5.1	6.4	Newtown- ards	5.4	10.9	21.8	16.3	13.6
Cork -	15.0	15.6	12.9	17.7	15.3	Portadown -	13.3	13.3	17.8	4.4	12.2
Drogheda -	4.2	4.2	8.3	4.2	5.2	Queenstown	6.4	25.4	6.4	12.7	12.7
Dublin - (Reg. Area)	14.7	16.6	17.2	16.4	16.2	Sligo -	23.4	28.0	4.7	4.7	15.2
Dundalk -	23.8	27.8	11.9	15.9	19.8	Tralee -	35.4	15.2	10.1	—	15.2
Galway -	27.5	11.8	11.8	35.4	21.6	Waterford -	20.9	13.3	17.1	19.0	17.6
Kilkenny -	9.9	19.8	—	5.0	8.7	Wexford -	13.6	13.6	13.6	13.6	13.6
Limerick -	10.8	14.9	21.7	33.8	20.3						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, October 5, 1912, were equal to an annual rate of 1.5 per 1,000—the rates varying from 0.0 in fifteen of the districts to 9.5 in Limerick, the 25 deaths from all causes for that district including 7 from measles. Among the 112 deaths from all causes registered in Belfast are 3 from measles, 2 from scarlet fever, and 8 from diarrhoea and *enteritis* of children under 2 years. The only death registered in Ballymena is from whooping-cough.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 400,865, that of the City being 306,573, Rathmines 38,495, Pembroke 29,731, Blackrock 9,125, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended October 5 amounted to 240—132 boys and 108 girls—and the deaths to 136—66 males and 70 females.

DEATHS.

The registered deaths, omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 16.4 per 1,000 of the population. During the forty weeks ending with Saturday, October 5, the death-rate averaged 20.8, and was 1.3 below the mean rate for the corresponding portions of the 10 years 1902–1911.

The total deaths registered, numbering 136, represent an annual rate of 17.7 per 1,000. The annual rate for the past forty weeks was 22.1 per 1,000, and the average annual rate for the corresponding period of the past ten years was 23.1 per 1,000 of the mean population for all deaths registered.

The total deaths (136) from all causes included 2 from each of enteric fever and measles, one from each of diphtheria and scarlet fever, 2 from whooping-cough, one from influenza, and one death from diarrhoea or *enteritis* of a child under 2 years of age.

In each of the 3 preceding weeks, deaths from enteric fever were 0, one, and one; deaths from measles were one, 3, and

one; deaths from scarlet fever were one, one, and 2; deaths from whooping-cough were one, 4, and 0; deaths from diphtheria were 2, 0, and 2; deaths from influenza were 0, one, and one; and deaths from diarrhoea and *enteritis* of children under 2 years of age were 2, 3, and 2, respectively.

There were 22 deaths from tuberculosis. This number includes 18 deaths from pulmonary tuberculosis, 3 from disseminated tuberculosis, and one death from tuberculous disease of the femur. In each of the three preceding weeks, deaths from tuberculosis numbered 22, 13, and 25.

Of 7 deaths from pneumonia, broncho-pneumonia caused 3 deaths, lobar pneumonia one death, and *pneumonia* (type not distinguished) caused 3 deaths.

Organic diseases of the heart caused the deaths of 13 persons, and 11 deaths from bronchitis were recorded.

Fifteen deaths were caused by cancer.

There were 4 deaths of infants under one year of age from *convulsions*.

Prematurity caused the deaths of 4 infants, and congenital debility 3 deaths.

There were 4 accidental deaths, including 2 (both of children under 5 years of age) by burns, and one death from drinking camphor liniment.

In 7 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 infants under one year old, and the death of one person aged 70 years.

Twenty-eight of the persons whose deaths were registered during the week ended October 5 were under 5 years of age (17 being infants under one year, of whom 4 were under one month old), and 36 were aged 65 years and upwards, including 25 persons aged 70 and upwards. Among the latter were 9 aged 75 years and upwards, of whom one (a female) was stated to have been aged 92 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification)

Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended October 5, 1912, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) ^a	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis (<i>Phthisis</i>)	Acute Poliomyelitis
City of Dublin	Sept. 14	•	•	12	-	-	4	-	-	11	9	-	•	-	13	•
	Sept. 21	•	•	21	3	-	4	-	2	13	12	-	•	-	8	•
	Sept. 28	•	•	18	-	-	6	-	1	7	12	-	•	-	10	•
	Oct. 5	•	•	18	1	-	12	-	1	12	1	-	•	-	7	•
Rathmines and Rathgar Urban District	Sept. 14	•	•	1	-	-	2	-	-	1	-	-	•	•	•	•
	Sept. 21	•	•	-	-	-	2	-	-	3	2	-	•	•	•	•
	Sept. 28	•	•	1	-	-	5	-	-	-	-	-	•	•	•	•
	Oct. 5	•	•	3	-	-	3	-	-	-	-	-	•	•	•	•
Pembroke Urban District	Sept. 14	2	-	-	-	-	1	-	-	-	-	-	2	•	-	•
	Sept. 21	2	-	3	-	-	1	-	-	-	-	-	1	-	-	•
	Sept. 28	-	-	2	1	-	1	-	-	3	-	1	-	-	-	•
	Oct. 5	-	-	-	-	-	-	-	-	-	-	-	3	-	-	•
Blackrock Urban District	Sept. 14	•	•	-	-	-	-	-	-	-	-	-	•	-	-	•
	Sept. 21	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•
	Sept. 28	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•
	Oct. 5	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•
Kingstown Urban District	Sept. 14	•	•	-	-	-	-	-	-	-	-	-	•	-	2	•
	Sept. 21	•	•	1	-	-	-	-	-	-	-	-	•	-	2	•
	Sept. 28	•	•	-	-	-	-	-	-	-	-	-	•	-	1	•
	Oct. 5	•	•	-	-	4	-	-	-	-	-	-	•	-	-	•
City of Belfast	Sept. 14	•	•	21	-	-	7	-	-	1	4	-	•	•	10	•
	Sept. 21	•	•	45	-	-	3	1	-	-	4	-	•	•	5	•
	Sept. 28	•	•	29	-	-	4	1	-	-	3	-	•	•	13	•
	Oct. 5	•	•	37	-	-	8	-	-	-	5	-	•	•	7	•

^a Continued Fever.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended October 5, 1912, 3 cases of measles were admitted to hospital, 3 were discharged, there was one death, and 7 cases remained under treatment at the close of the week. In the three preceding weeks such cases were 10, 6, and 8 respectively.

Eighteen cases of scarlet fever were admitted to hospital, 6 were discharged, there was one death, and 135 cases remained under treatment at the close of the week. This number is exclusive of 13 convalescent patients who remained under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital, Dublin. At the close of the 3 preceding weeks the cases in hospital were 125, 125, and 124 respectively.

One case of typhus was admitted to hospital during the week, and 3 cases remained under treatment at its close.

Seventeen cases of diphtheria were admitted to hospital, 9 were discharged, and there was one death. The cases in hospital, which at the close of the 3 preceding weeks numbered 39, 37, and 36, respectively, were 43 at the close of the week.

Twenty-two cases of enteric fever were admitted to hospital, 10 were discharged, there was one death, and 64 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks being 40, 48, and 53.

In addition to the above-named diseases, 12 cases of pneumonia were admitted to hospital, 3 were discharged, there was one death, and 27 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, October 5, in 95 large English towns (including London, in which the rate was 13.3) was equal to an average annual death-rate of 12.3 per 1,000 persons living. The average rate for 18 principal towns of Scotland was 12.2 per 1,000, the rate for Glasgow being 13.8, and that for Edinburgh 10.2.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edin-

burgh with a copy of his Return of Infectious Diseases notified during the week ended October 5. From this Report it appears that of a total of 97 cases notified, 33 were of scarlet fever, 29 of phthisis, 24 of diphtheria, 8 of erysipelas, and 3 of enteric fever. Among the 295 cases of infectious disease in hospital at the close of the week were 73 of diphtheria, 67 of phthisis, 112 of scarlet fever, 16 of whooping-cough, 12 of erysipelas, 7 of enteric fever, and 5 of chicken pox.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of September, 1912.

Mean Height of Barometer, - - -	30.185 inches.
Maximal Height of Barometer (19th, at 9 a.m.),	30.506 „
Minimal Height of Barometer (30th, at 9 p.m.),	29.260 „
Mean Dry-bulb Temperature, - - -	52.9°.
Mean Wet-bulb Temperature, - - -	50.6°.
Mean Dew-point Temperature, - - -	48.3°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.343 inch.
Mean Humidity, - - -	84.8 per cent.
Highest Temperature in Shade (on 3rd), -	68.8°.
Lowest Temperature in Shade (on 13th), -	43.3°.
Lowest Temperature on Grass (Radiation) (24th)	39.8°.
Mean Amount of Cloud, - - -	57.2 per cent.
Rainfall (on 8 days), - - -	.570 inch.
Greatest Daily Rainfall (on 29th), - -	.237 „
General Directions of Wind, - - -	W., N.W., S.E.

Remarks.

A fine and dry, though cool, September followed a cold, very wet August. At most of the Dublin observing stations an absolute drought lasted from the 5th to the 28th—at Fitzwilliam Square, light drizzling showers on the 16th–17th broke the drought with a rainfall of .010 inch. At this station the rainfall up to the 28th amounted to .117 inch only on 5 days—the balance of the total rainfall for the month—.570 inch—fell on the last 3 days, when the British Islands and France came within the influence of a complex atmospheric depression, in the central area of which the barometer sank to 28.97 inches at Brest on the evening of the 30th.

The first five days of the month were showery owing to the presence of depressions to the northward. In the deepest of these systems the barometer fell to 28.96 inches at Vestmanna on the south coast of Iceland on the evening of the 4th. As this disturbance approached Iceland, its S.W. winds sent the thermometer up on the 3rd to 69° in Dublin, 67° at Birr Castle, and 66° at Roche's Point. Next day equally high temperatures were recorded very generally in England, Deal reporting a maximum of 71°. An anticyclone of remarkable staying power arrived over Ireland on the 5th. It held until the 26th, when a depression off the Kerry coast threw the weather into a squally unsettled state, and heavy rains began to fall, breaking up a drought which saved the harvest of 1912. On the morning of the day just named 2.06 inches of rain were measured at Valentia Observatory, Cahirciveen. During the last 3 days of the month 1.97 inches of rain fell at Kew Observatory and 1.99 inches at Greenwich.

In Dublin the arithmetical mean temperature (53.7°) was 2.2° below the average (55.9°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 52.9°. In the forty-eight years ending with 1912, September was coldest in 1886 and 1892 (M. T. = 53.0°), and warmest in 1865 (M. T. = 61.4°) and 1898 (M. T. = 60.2°). In 1911 the M. T. was 56.5°.

The mean height of the barometer was 30.185 inches, or 0.275 inch above the corrected average value for September—namely, 29.910 inches. The mercury rose to 30.506 inches at 9 a.m. of the 19th, and fell to 29.260 inches at 9 p.m. of the 30th. The observed range of atmospheric pressure was, therefore, 1.246 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 52.9°, or 1.2° below the value for August, 1912. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.*) × .476, the mean temperature was 53.4°, or 2.3° below the average mean temperature for September, calculated in the same way, in the thirty-five years, 1871–1905, inclusive (55.7°). The arithmetical mean of the maximal and minimal readings was 53.7°, compared with a thirty-five years' average of 55.9°. On the 3rd the thermometer in the screen rose to 68.8°—wind, S.W.; on the 13th the temperature fell to 43.3°—wind, W.N.W. The minimum on the grass was 39.8° on the 24th.

The rainfall was .570 inch on 8 days. The average rainfall for September in the thirty-five years, 1871–1905, inclusive, was 2.210 inches, and the average number of rainy days was 15. In 1871 the rainfall was very large—4.048 inches on, however, only 13 days; in 1896 no less than 5.073 inches fell on 23 days, establishing a record rainfall for September. On the other hand, in 1865, only .056 inch was measured on but 3 days. In 1911 only 1.007 inches fell on 11 days.

High winds were noted on 7 days, but never attained the force of a gale. Fog occurred on the 16th.

The rainfall in Dublin during the nine months ending September 30th amounted to 22.658 inches on 158 days, compared with 12.599 inches on 120 days in 1911, 25.108 inches on 159 days in 1910, 18.493 inches on 134 days in 1909, 19.557 inches on 154 days in 1908, 17.140 inches on 153 days in 1907, 16.121 inches on 146 days in 1906, only 10.968 inches on 112 days in 1887, and a thirty-five years' average of 20.160 inches on 146 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, reports that the mean height of the barometer was 30.189 inches, the range of pressure being from 30.49 inches at 9 a.m. of the 19th to 29.30 inches at 9 p.m. of the 30th. The mean value of the readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 54.1°. The arithmetical mean of the daily maximal and minimal temperatures was 53.6°, the mean maximum being 59.8°, and the mean minimum 47.4°. The screened thermometers rose to 69.9° on the 3rd, and fell to 40.2° on the 24th. On the latter day the grass minimum was 34.0°. Rain fell on 5 days to the amount of .487 inch, the greatest fall in 24 hours being .272 inch on the 29th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 108.2 hours, of which 9.7 hours occurred on the 4th. The mean daily duration was 3.6 hours. The mean sub-soil temperatures at 9 a.m. were—at 1 ft., 54.7°; at 4 ft., 54.9°.

At Ardgillan Castle, Balbriggan, Co. Dublin, 210 feet above sea-level, Captain Edward Taylor, D.L., measured .75 inch of rain on 7 days, the rainfall being 1.20 inches below the average

and the rain-days being 6 in defect. The total rainfall from January 1, amounts to 25.40 inches on 146 days. The rainfall is 4.85 inches and the rain-days are 9 in excess of the average. The maximal temperature in the shade was 66.7° on the 3rd, the minimum was 40.0° on the 9th. Within the past 20 years September was driest in 1894, with a rainfall of 0.110 inch on only 2 days; wettest in 1896, the rainfall being 5.27 inches on 24 days.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was .210 inch on 6 days, the greatest fall in 24 hours being .065 inch on the 28th. The mean shade temperature was 51.9° , the extremes being—highest, 67° on the 3rd; lowest, 38° , on the 23rd.

The rainfall recorded at the Ordnance Survey Office, Phoenix Park, was .425 inch on 7 days, the greatest measurement in 24 hours being .190 inch on the 29th. The total amount of sunshine at this station was 100.7 hours, the most registered on any one day being 12.0 hours on the 21st.

At Cheeverstown Convalescent Home, Clondalkin, Co. Dublin, Miss C. Violet Kirkpatrick recorded a rainfall of .61 inch on 7 days, the maximal fall in 24 hours being .27 inch on the 29th.

At 21 Leeson Park, Dublin, Dr. Christopher Joynt, F.R.C.P.I., registered .600 inch of rain on 8 days, the greatest fall in 24 hours being .240 inch on the 29th. Up to September 30, the rainfall at this station was 22.324 inches on 151 days.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson recorded a rainfall of .57 inch on 7 days, the greatest fall in 24 hours being .29 inch on the 29th. The shaded thermometer rose to 68° on the 3rd and 4th and fell to 42° on the 22nd and 24th. The mean temperature in the shade was 53.0° .

Mrs. Olive Symes returns the rainfall at Killiney as .47 inch on 5 days, .28 inch being recorded on the 29th. The average September rainfall at Cloneevin, Killiney, in 24 years (1885–1908) was 1.961 inches on 12.9 days.

At the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Co. Dublin, Dr. A. J. Blake, Resident Medical Superintendent, recorded a rainfall of .14 inch on 5 days. The heaviest fall in 24 hours was .04 on the 28th.

Dr. J. H. M. Armstrong, M.B., reports that at Coolagad,

Greystones, Co. Wicklow, the rainfall was .52 inch on 7 days. The heaviest fall in 24 hours was .31 inch on the 29th. At Coolagad the rainfall since January 1st, 1912, has been 38.14 inches on 161 days.

At Fernside, Greystones, Mr. Arthur R. Moore, M.A., recorded a rainfall of .42 inch on 5 days. The greatest rainfall in 24 hours was .25 inch on the 29th.

Dr. Charles D. Hanan, M.B., Resident Medical Officer, reports that at the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, rain fell to the amount of .73 inch on only 3 days, the heaviest rainfall in 24 hours being .57 inch on the 29th. The screened thermometers rose to 69° on the 3rd and fell to 41° on the 24th. The mean maximum temperature was 57.6°, the mean minimum 46.4°, and the arithmetical mean temperature 52.0°.

The Rev. Arthur Wilson, M.A., returns the rainfall at the Rectory, Dunmanway, Co. Cork, at 1.53 inches on 8 days, the heaviest falls in 24 hours being .43 inch on the 26th, and .40 inch on the 28th. The total fall in the 9 months of 1912 has been 43.07 inches, or 6.08 inches more than the average of the same period in 6 years (36.99 inches). There was a period of 21 days absolute drought (4th to 24th inclusive). This was the longest absolute drought within the last 8 years. The weather was also very fine, warm and bright by day, with night frosts from the 7th to the 17th.

LITERARY NOTE.

MESSRS. BAILLIÈRE, TINDALL & COX announce that they are publishing a second edition of the English translation of Dicuafoy's "Text-book of Medicine." The whole work has been thoroughly revised, every chapter being subjected to the closest scrutiny in order to delete old matter, and much new material has been added. The fifteenth French edition of the "Manuel de Pathologie Interne" was first translated into English and published in June, 1910. Its success was phenomenal, and the publishers found it necessary to reprint no less than three times within a period of eleven months. With the publication of this second edition a total of 17,000 copies will have been issued. It is bound in two handsome volumes of 2,080 pages, and is illustrated with nine coloured plates and 99 other illustrations in the text.

PERISCOPE.

THE ROENTGENOLOGIC METHOD OF EXAMINING CASES OF CONSTIPATION AND OBSTIPATION—A METHOD OF VISUALISATION OF ABDOMINAL LESIONS OF THE INTESTINAL TRACT.

ARTHUR F. HOLDING, M.D., of New York City, N. Y., read a paper under this title before the American Proctologic Society in June, 1912. The author noted that current textbooks on diagnosis, written by eminent authorities, are still copying cuts which were drawn by some artist rather than by an anatomist. Let us hope that the striking proof furnished (by the *x*-rays) of the fallacy of such teaching will be effective, and perhaps not one of the least results will be to cause true illustrations to be placed before our students' eyes. The normal position of the colon and the parts of the intestine that can ordinarily be visualised by means of bismuth ingesta and the *x*-rays are:—(1) The first portion of the duodenum; (2) the jejunum; (3) the ileum; (4) all parts of the colon. In some cases the second and third portions of the duodenum and the appendix can be visualised.

The accuracy, reliability, and interpretation of findings by this method, however, may well receive our careful attention. By fluoroscopy and by radiography in the erect or prone position, or both, an accurate outline of the lumen of the tract can be obtained, especially where there is any obstruction to the onward progress of the intestinal contents. The individual peristaltic waves can be accurately registered on a special photographic emulsion that is far more sensitive than the human retina, and the progress of the peristaltic waves can thus be seen functioning under normal conditions, the patient and his abdominal contents not relaxed by a general anæsthetic; the secretions and motility not disturbed by the presence of an irritating foreign body, such as a stomach tube; the conclusion not based on inference deduced from chemical reactions of juices obtained by abnormal and irritating measures. The organic outline obtained in *x*-ray plates is even more conclusive and reliable than the information obtained by the sense of touch, whether that

be applied over the intact abdominal wall or to the viscera laid bare by an exploratory incision. The radiographic emulsion and the retina are the two most sensitive methods of observation possessed by man, far outranking in their acuteness either the drum-membrane or the sense of touch.

It has been contended that the abdominal operation was more accurate than an *x*-ray examination, because it laid bare the "naked truth"; the finality of this argument is based more on the sound of the words than in fact, as anyone knows who has had an opportunity to use both methods on the same case. On the other hand, there is great danger of arriving at wrong conclusions in using the *x*-ray method, especially when the examination is based on too few plates, or is only an examination of a suspected part of the thirty odd feet of intestinal canal. The various lesions and conditions that have been successfully shown by the *x*-ray method are:—Atonic and spastic constipation; congenital anomalies of the tract, such as non-rotation of the cæcum and narrowing or insufficiency of the ileo-cæcal valve; adhesions; kinks, with or without adhesions (including Lane's); ulcers; tumours within the canal and tumours pressing upon the intestines from without. It must be borne in mind that a palpable tumour disappearing after the administration of an enema or a cathartic, even if followed by improvement in the patient's condition, is not proof that the tumour was fæces.

The method of clearing up by means of *x*-rays difficult conditions present in patients will, no doubt, be gladly welcomed and widely utilised by surgeons, who, as a class, deserve our greatest respect and admiration for their courage in attacking many ordinarily undiagnosable conditions by cutting boldly into the abdomen and making their diagnosis by inspection, and thereupon instituting impromptu surgical procedures in order to correct the conditions found. Many times the condition found within the abdomen is entirely different from that which was expected. When these difficult situations can be accurately known before the operation is begun; when the surgical procedures can be accurately predetermined; when much time (previously lost exploring the abdomen) can be saved; when the duration of the patient's anaesthesia can be proportionately shortened; when the surgeon will be saved the tremendous

nervous strain and responsibility of emergency decisions and procedures; the surgeon must recognise that his operative statistics will necessarily be better, his patients are going to recover quicker, and more of them, and, finally, the years of a surgeon's own life and usefulness will be increased. The only great drawback to the general adoption of this method is its necessarily great expense.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

“*Tabloid*” Hypodermic “*Ergamine*”—0.001 gm.

ONE of the latest additions to the list of “*Tabloid*” Hypodermic products issued by Messrs. Burroughs, Wellcome & Co. is “*Tabloid*” Hypodermic “*Ergamine*”—0.001 gm. “*Ergamine*” is a recently isolated active principle of ergot, with a marked action on the uterus. It is an organic base, β -Iminazolyethylamine, derived from the hexone base histidine by the elimination of carbon dioxide. This change can be produced by certain putrefactive bacteria and chemical substances as well as by the ergot fungus. “*Ergamine*” can now also be produced synthetically, in a state of chemical purity. The most important pharmacological action of “*Ergamine*” is as a stimulant of plain muscle, this action being particularly conspicuous in the case of the uterus, which responds to mere traces of this potent substance. In rodents, “*Ergamine*” produces a rise of blood-pressure, causing in the guinea-pig an asphyxiating constriction of the bronchioles. In carnivora and in the monkey (and probably therefore in man), it has a weaker action on the bronchioles, and causes a fall of blood-pressure due to general vaso-dilatation. Therapeutically, “*Ergamine*” is indicated when prompt contraction of the uterus is desired, as in cases of *post-partum* hæmorrhage. It is introduced for clinical trial, and the dose suggested is one milligramme repeated with great caution. “*Tabloid*” Hypodermic “*Ergamine*” is issued in tubes of 12 products.

REPORT ON THE SURGERY OF THE PERITONEUM.

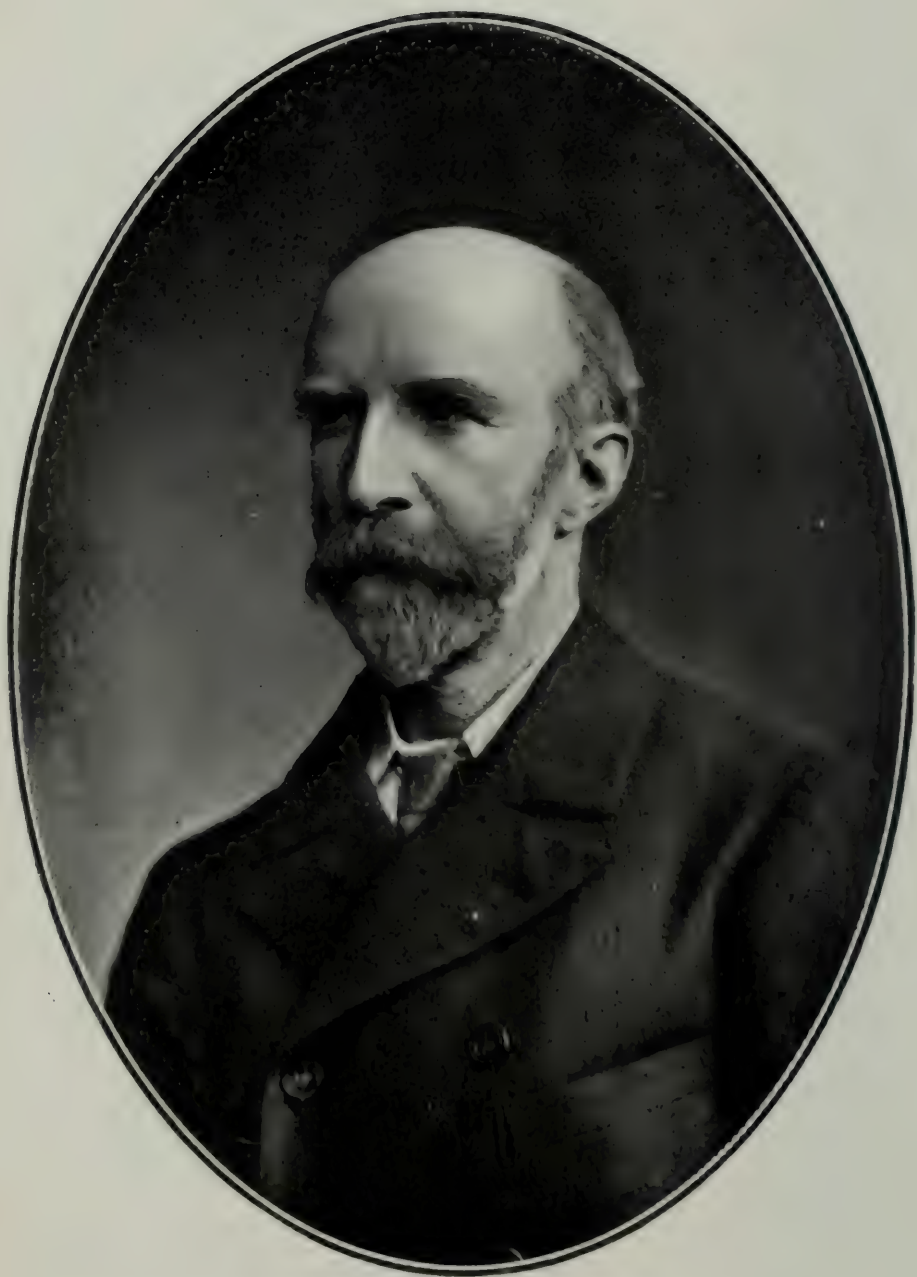
THE following is a list of contributors to the Report, printed at page 321 above, to whom Dr. Macnaughton-Jones wishes to express his indebtedness:—

London

H. Russell Andrews	A. H. Lewers
Miss Aldrich Blake	F. J. McCann
G. F. Blacker	Drummond Maxwell
A. C. Butler-Smythe	J. D. Malcolm
Comyns Berkeley	Mansell Moullin
Victor Bonney	John Phillips
E. Brewis	H. J. Playfair
Alban Doran	Amand Routh
J. H. Dauber	G. Drummond-Robinson
T. Eden	Mrs. Vaughan-Sawyer
J. S. Fairbairn	Mrs. Scharlieb
W. H. Fenton	Herbert Spencer
W. J. Gow	J. H. Targett
W. S. A. Griffith	Walter Tate
Eardley Holland	Herbert Williamson
C. Keep	Mrs. F. Willey
Cuthbert Lockyer	

Provincial

T. Gelston Atkins	Miss M. Ivens
J. W. Ballantyne	R. Jardine
Blair Bell	Henry Jellett
H. Briggs	Furieux Jordan
Sir J. W. Byers	R. J. Kinkaid
Stanmore Bishop	Munro Kerr
J. W. Campbell	Rankin Lyle
S. J. Cameron	J. Marnoch
C. P. Childe	G. B. Marshall
Tennison Collins	Miss Louise McIlroy
Sir Halliday Croom	Yelverton Pearson
A. Donald	A. W. Russell
F. Edge	Sir William Smyly
Haig Ferguson	Alfred Smith
W. Fothergill	H. P. Symonds
T. B. Grimsdale	W. Swayne
J. B. Hellier	Hastings Tweedy
F. W. Haultain	T. Wilson
T. A. Helme	T. H. Wilson



ARTHUR HENRY BENSON, M.A., M.B., F.R.C.S.I.

THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

DECEMBER 2, 1912.

PART I. ORIGINAL COMMUNICATIONS.

ART. XIII.—“ *Vitalism* ” in the Practice of Medicine.^a

By JOSEPH O'CARROLL, M.D., F.R.C.P.I. ; Physician to the House of Industry Hospitals, Dublin ; President of the Section of Medicine in the Royal Academy of Medicine in Ireland.

THE Academy of Medicine has now completed its thirtieth year of existence, and as that period almost exactly corresponds to my own professional life, it has occurred to me that a very brief review of its work, of which *pars minima fui* would not be out of place.

I shall give my own general impression of our career—mentioning no names of individuals. To do so would be distasteful to the living, and would recall memories of those gone before us which would cast a gloom over our opening meeting, where hope should predominate.

For the first ten years or so of our life this Section of Internal Medicine and its closely allied Section of Pathology (for it is impossible to separate us) were mainly

^a A Presidential Address to the Section of Medicine in the Royal Academy of Medicine in Ireland, at the inaugural meeting of the Session of 1912-1913, November 1st, 1912.

result of the inter-action of forces, often vital ones, in which the human organism for a time or for good gets the worst of it.

Professor Schäfer, in his recent address to the British Association for the Advancement of Science, seemed to take the view that the phenomena of life may ultimately be capable of being stated in a series of chemical equations; in other words, that the activities of the simple cell, and, therefore, of the most compound organism, are an expression of the reaction of its chemical constituents to those of the medium in which it lives, or of the antagonist with which it strives for life. “ We may fairly conclude,” he says, “ that all changes in living substance are brought about by ordinary chemical and physical forces. . . . At the best, ‘ vitalism ’ explains nothing, and the term ‘ vital force ’ is an expression of ignorance which can bring us no further along the path of ‘ knowledge.’ ”

He supposes a gradual transition “ from material which was lifeless, through material on the borderland between inanimate and animate, to material which has all the characteristics to which we attach the term ‘ life.’ ”

Now, I do not think that this wholly mechanical view of life will commend itself to the student of internal medicine. Every man must work on some hypothesis or other, and this purely mechanical explanation of life is, it seems to me, entirely unhelpful to the physician. Far be it from me to say that the chemico-mechanical view is utterly wrong. I recognise that it goes a very long way in explaining most of the processes which we are accustomed to call vital. The law of gravity is as compulsory in a living man as in a corpse; filtration, osmosis, liquid tensions, all obey their several laws in the living body as in the laboratory; and chemical reactions, no doubt, are equally obligatory. But the living body, I believe, possesses a power outside of all these physical forces—namely, the function of resistance, adaptation or accommodation; that function of life is the very corner stone of

evolution, and is a new force outside and beyond those which enter into physico-chemical reactions.

The detritus of some Alpine height will as certainly as possible pursue a continuous descent towards the sea, and no fragment of it will ever have the power to lift itself backwards by the millionth part of an inch towards the boulder from which it originally broke away. Its destiny is simple and immutable unless in so far as some living thing may modify it.

But look at the world of life on the other hand. Roughly speaking, one may say that survival depends upon resistance to gravity, resistance to friction, resistance to heat and cold, and to a thousand other destructive forces. Resistance is the mark of life; partial resistance coupled with partial acquiescence, in biology as in politics, may be termed accommodation, and to this power of accommodation or compromise is largely due the survival of many forms of life. ,

Man has learned to accommodate himself to physical surroundings and to biological infections which in earlier ages were much more fatal than they are now. The stress of modern life would have been intolerable—physically intolerable—in the ages in which a man had done a good day's work when he had killed enough game for two or three days' food, and had gorged himself into a condition of somnolent repletion. Under the press of competition he has learned to eat more temperately and to work harder. Yet now and again an individual here and there breaks down under the strain; his power of accommodation gives way, and he is said to become neurasthenic. He becomes intolerant of the noise, the bustle, the anxieties, the ambitions of civilisation; and then we put him to bed, we give him plenty of food, and as far as possible we shut him off from contact with the outside world. We try to reproduce the condition of the over-fed savage in his rock-cave, in the hope that after a time he will come forth fit to hunt with his fellow-man again. The breakdown of the neurasthenic only accentuates the accommo-

dation of the majority of men to more strenuous conditions.

Man has always had to fight for existence with other forms of life. The microbic organisms have at all times been his deadliest enemies. Yet we have abundant evidence that now he makes a much better fight than in former ages. The infective fevers are less deadly in a community in which they are endemic than in one to which they are freshly introduced. In the one case the continuous entity Man—which I may term the brotoplasm—has accommodated itself to the microbic enemy, and in large measure survives: in the other case it has not yet acquired the faculty of accommodation, and for a time it largely succumbs. Tuberculosis has become less deadly, syphilis has become attenuated in virulence, leprosy tends gradually to become more and more limited in its distribution. If this increased resistance depends, as no doubt it does, on chemical changes in our constitution, it is no less true that only in a living organism could such change have come about.

Yet it would be a fatal confidence to ignore the fact that if man has the power of resistance and accommodation, the microbic organisms have similar powers. Little as we know about them, this at least is certain, that though the human body may be able completely to antagonise some of them, as witness the finite fevers, such as measles and smallpox, yet there are others which it can often only keep in check without absolutely killing or eliminating them. The persistence of the bacillus in the typhoid-carrier, the recrudescence in apparently cured tuberculosis, the cropping up of syphilitic manifestations when cure had long seemed complete, are suggestive of the view that the microbe-race fights for survival with a tenacity and a success which are utterly inexplicable as due to mere chemical force as we understand the term. That micro-organisms can acquire immunity to the human anti-bodies is common knowledge. Experience of the salvarsan treatment appears to show that the *Spiro-*

chæte pallida may acquire a certain power of resistance to arsenic. A succession of small doses resting unsuccessful, a full dose may fail equally: probably because the organism has become habituated to the poison, as if it were one of the arsenic eaters of Styria. This may be the reason why in pernicious anæmia arsenic administered by the mouth may have a temporary success while it ultimately fails. I am myself disposed when I next meet a case of that disease which has not been treated by arsenic, to try an injection of salvarsan in the hope that the causative agent may be annihilated by a dose which will not be intolerable for the host.

The accommodative process is active not merely between organism and organism, but within the individual living thing is visible in direct proportion to the complexity of its organisation. The form, structure, and function of the various parts of a compound organism, each dependent for safety not merely on its own activities but on those of other parts, are an expression of that accommodative process which I take to be such an essential mark of life. The original cells of the fertilised ovum have surrendered their individual liberty and made an accommodation or pact by which division of labour and differentiation of form secure the healthy development of the whole community into what we call an individual. Those which are marked off to be nerve cells—comparatively few—are the life-peers of the human organism. Their dignity and function are conterminous with their life; but they have no heirs. On the other hand, the lower class cells—that is, the least differentiated—breed freely, have a continuous succession, and may from time to time leap the barriers of form and function allotted to them, forming reparative structures such as a scar, or definite new growths such as cancer. Even in this last eventuality the more orderly cells can be seen to constitute themselves into an army of resistance, which makes a continuous but perpetually losing fight against the rebel cells constituting the new growth.

In the progress of common diseases this vital accommodation is marked; and I venture to assert that no one can form a true estimate of disease who does not at least try to separate the processes which are truly morbid from those which are resistive, conservative, and accommodative. Take, for instance, the common arterio-sclerotic syndrome. A heightened blood-pressure and perhaps an unduly perceptible artery-wall hint at the establishment of the disease, whatever its cause. Then a heart-beat more forcible than normal, and perhaps increase in the daily quantity of urine, and the presence in it of a trace of albumen, complete the clinical picture. I hold that he who would understand and treat the disease—if, indeed, we are ever likely to understand it fully—must recognise that for a time at least the events in it are protective for the general organism, and that the end approaches in proportion as each protective process breaks down. Thus in this syndrome the cardiac hypertrophy and the polyuria are probably protective. The tumult of the heart and the albumen-incontinence of the kidney probably indicate the failure of these two lines of defence. No doubt the arterial change which first attracts attention is itself also protective, and by no means morbid. At least we may say that the arterial pressure commonly falls away towards the end, accompanied by a corresponding deterioration in the condition of the patient. The *materies morbi* is evidently behind all these symptoms.

This view of disease might seem to deprecate all treatment. By no means. It suggests only that we should try to set symptoms in their processional order; that we should aim at discovering and treating the primary cause if possible; and that we should congratulate ourselves on the diminution or disappearance of the secondary symptoms only if the general condition of the body as a whole is therewith manifestly improved. In other words, I wish to inculcate the greatest respect for symptoms which in their early stages I believe to be defensive, and which, as they represent the effort of this or that tissue or organ to

defend the whole organism even at the cost of ultimate damage to themselves, I conceive to be essentially vital and not chemico-physical phenomena. Taking this very case of arterio-sclerosis, let me suggest by way of illustration what I take to be an error in treatment. A person showing this condition develops after some time a little puffiness about the ankles. My reading of the cause of this is that probably the kidneys are becoming a little unfit to maintain their line of defence; but the patient thinks he has dropsy, and claims instant removal of a condition which he takes to be a sure forerunner and cause of death. We yield to his prayer, and administer a brisk diuretic. The œdema disappears like magic, and for a few days we enjoy the credit of having performed a miracle. But a swift retribution follows in the shape of more dropsy, less urine, and the more or less rapid super-vention of uræmia. Respect for the vital and accommodative resistance of the human body should have taught us to hesitate before interfering with a little harmless œdema by direct stimulation of the organ of whose fatigue or failure it was the sign.

This is not to say that in any given case we are to stand by admiring the process of nature and doing nothing. This matter of œdema and dropsy will serve to exemplify my position. We may take it for granted that there is a continual circulation of the fluids of the body from the heart to the tissues (including those of the heart itself) and from the tissues back to the heart. The loss of fluid from the skin and the lungs will normally be balanced by the intake from the alimentary tract, and may, for the purpose of my argument, be ignored. When the circulatory mechanism for any reason fails, there must be a tendency to stasis in the circuit, and stasis would mean death to the organism. Stasis is put off by the occurrence of dropsy. Where does it first show itself? In the fine lymphatic passages surrounding the ultimate and least differentiated tissue cells and in the larger lymphatic cavities. We have latterly thrown over the old mechanical view of

dropsy: thanks largely to the labours of the French school we now incline to the chemical explanation: but I venture to assert that while both mechanical and chemical explanations are still necessary, they are insufficient to account for the special localisation of dropsical fluids. That localisation is dependent upon a vital selection by which it is placed where it can do least harm: and I may add that it always, or nearly always, occurs when the kidneys have already done their best to relieve the relative plethora of the circulation, and have begun to fail. Dropsy so localised is for a time harmless. Any attempt to remove it by stimulating the kidneys to further effort is sure to fail: when it becomes obnoxious by its bulk it is best removed by paracentesis. This view gives to dropsy an essential value as a vital effort on the part of the organism to relieve the main circulating system: the blood is permitted to unload the least essential of its elements in the interstices of the least essential tissues, which in their turn live much longer than if they resisted such a burden. This is no fanciful view. Over and over again in hospital we have seen dropsical patients kept alive for terms which seemed impossible at their admission, by leaving their dropsy untreated till it reached a pressure which just incommoded the circulation or the breathing, and then removing it by tapping. More than five years ago a woman was admitted into hospital under my care, apparently dying with mitral incompetence, dropsy, and albumen in the urine. She died only a month ago, having had abdominal paracentesis performed more than a hundred times. During four years she had been able to go home for a few days between each tapping, when the weather was fine, while she stayed with us entirely during each winter.

I contend, then, that while the living organism is subject to all physical forces, it has a force of its own—a vital force which determines it to preserve its own individuality. That force, present in all its several structures, determines each to preserve its own existence, while at

the same time it is dependent for perfect function upon the health of the other structures which go to make up the organism. In health the distribution of function is so equilibrated that we can recognise no part as being more perfect or less perfect than another. In that falling away from health which we call "disease" it commonly happens that structures and tissues fail in proportion as they are more highly specialised or have been later in development. But at each stage of degradation, defensive works are set up by tissues lower or simpler in structure and of older birth, so that the most ancient of our tissues are the last to die. A good deal of the essence of a scientific treatment of disease consists in the full use of these lower defences before we attempt to recapture and rehabilitate the higher positions which have been lost or put out of action.

All this implies something akin to intelligence or purpose in the living cell or in the community of cells which constitute the individual, by which it aims perpetually at not ceasing to be, and by resistance and compromise adapts itself to forces from within or from without which tend to its destruction. And as the various groups of cells of different function which constitute a higher organism live a social life, in which each is dependent upon, and acts in defence of the others I recognise herein the very beginning of a social morality. That morality is based upon mutual interest and the common good. When organisms of similar kind multiply they retain as individuals, and as a community commonly develop on a higher level this social morality. In the case of lower organisms than ourselves we usually call the various manifestations of this social morality by the name of instincts—a name which explains neither their origin nor their purpose. If we recognise the defensive and accommodative purpose of these instincts we give them a moral sanction, and we accept morality as one of the functions of life. Thus the vital force which, in my conception, with all the various so-called physical forces conditions the

existence of a living organism or community, brings to such organism or community a power of resisting dissolution by mere physical forces: and in higher organisations this resistance is made efficient by a sub-division of function and a mutual interaction of parts which, in a human community, would be said to be the result of a natural morality. I see no reason for denying to simpler organisations a simpler and more embryonic, though none the less real and beneficial, morality.

But I do not think that any one can imagine a moral sense, no matter how rudimentary, being instilled into a mass of "colloidal slime" by any grouping of chemical and other physical forces. If this is unthinkable, then Professor Schäfer's vision of life being some day produced anew by the chemist from inorganic matter must remain a dream of the impossible.

This very crude intrusion of mine into a more or less abstract domain will, I hope, be acceptable to you for the sake of its lesson. That lesson is that we should, in our dealings with sick humanity, try to discriminate between those symptoms and conditions which are harmful to life, and those which are defensive of it; that we should approach nature as we see her, with respectful timidity, not with boorish temerity; and that we should think of ourselves as servants in the court of a great and wise and beneficent, but unfortunately dumb queen whose will has to be read by signs, according to our individual ability.

To accept the chemico-physical theory as the full explanation of life would be to hand ourselves over to a perfectly hopeless determinism. While it may possibly be true that Professor Schäfer's "colloidal slime" may from time to time take on the form and functions of life—in other words, that the production of life is continuous—such a jump into life must mean the taking on of qualities which were in no degree inherent in the original material. To say that such qualities—defensive, social, and moral—are explicable on chemical grounds accounts for such change no more than "vitalism" does, and it leaves us

with the uncomfortable feeling that while it deprives the term "chemical" of all definite value, it robs our conception of life of all that it connotes in the long story which begins at or before the amœba and ends with human civilisation.

ART. XIV.—*A Case of Cerebellar Tumour.*^a By ADAMS A. McCONNELL, B.A. (Sen. Mod.), M.B., B.Ch., B.A.O. Univ. Dubl.; F.R.C.S.I.; Assistant Surgeon, Richmond Hospital, Dublin.

THE history of the case which I present to you is as follows :—

CASE.—The patient, Mrs. C. M., aged forty, was admitted to the Whitworth Hospital, under the care of Dr. Travers Smith, who transferred her to the Richmond Hospital for surgical treatment. She complained of severe headache, impaired vision and increasing difficulty in using her right arm and leg. She stated that on several occasions, when about her ordinary household duties, she was overcome by a sudden giddiness, in which the room seemed to whirl round her, and which made it impossible to stand on her feet. She usually vomited and momentarily lost consciousness during these attacks. After admission to hospital she had several attacks of vertigo, but as she was confined to bed we could form no judgment of its effect on her equilibrium. The headache was frontal and of extreme severity; it came on at various hours during both day and night, and was only relieved by morphine. The chief cause of anxiety to the patient was the diminishing power of vision. When she came under observation the left eye was absolutely blind, but she could see fingers at a distance of one foot with the right. The right pupil was normal in size and reacted to light, whereas the left was moderately dilated and showed no reaction. There was some power of accommodation in the right eye, but none in the left. Ophthalmoscopic examination revealed the presence of double choked disc, worse on the left side. Owing probably to her deficient vision we could not elicit nystagmus. The patient had had attacks of vomiting, which occurred without relation to the taking of food and without any premonitory nausea.

^a Read before the Section of Surgery in the Royal Academy of Medicine in Ireland on Friday, October 25, 1912.

She walked with a shuffling, staggering gait, but did not show any tendency to fall. As a rule her course deviated to the left side, but on one or two occasions she walked towards the right. She could stand quite steadily with the heels together and the eyes closed. Examination of the motor mechanism elicited no loss of power of the right arm and leg. There was marked inco-ordination on attempting rapid pronation and supination—"diadococinesia"—which was especially evident in the left arm. The knee-jerks were slightly increased on both sides. Ankle-clonus and Babinski's sign were absent. Kernig's sign was present on both sides. The head was held direct and did not incline to one side more than to the other. Tactile sensation was somewhat diminished over vague areas of the lower limb, and the power of localisation of sensations considerably less than normal.

The presence of double optic neuritis, the non-reacting pupil on the left side, and a ringing sound in the left ear, designated by the patient "the dead bell," indicated the involvement of the second, third, and possibly the eighth cranial nerves, while the other cranial nerves were apparently normal. During her fourth week in hospital the patient became subject to seizures, in which the muscles were tonically contracted, the teeth clenched, and the lips covered with froth. In each of these attacks she frequently sneezed. Each fit lasted for about two minutes, and then passed away, leaving the patient in an exhausted condition. Her general mental state was depressed, and she lay in bed in a stuporose condition, from which she could be easily roused. She never spoke spontaneously. Pulse, temperature, and respirations were normal.

There is nothing of note in the family history, nor is there any clear indication of syphilitic infection. Wassermann reaction negative.

With such well-marked headache, vomiting, optic neuritis and lowered mentality there was no difficulty in coming to a diagnosis of intracranial tumour. The presence of the staggering gait and vertigo, the early and rapid onset of optic neuritis, the sudden incidence of optic atrophy, and the presence of diadococinesia made it probable that the cerebellum was the site of the lesion. This view was supported by the occurrence of the seizures in which all the muscles were thrown suddenly into tonic

contraction. The absence of clonus served to differentiate these attacks from those due to cortical lesions. According to Stewart and Holmes such tonic seizures are probably due to an irritative lesion of the cerebellum, and are never present in forebrain lesions. The fact that the patient sneezed repeatedly in each attack may have indicated some irritation of the receptor nuclei of the fifth cranial nerve or of the expiratory centre in the medulla. The presence of tinnitus is of little import unless it is confined to one ear, in which case it is suggestive of a tumour in the cerebello-pontine angle. The "dead-bell" sound mentioned by the patient was localised in the left ear.

We excluded tumours of the cerebello-pontine angle—the so-called extra-cerebellar tumours—chiefly from the absence of involvement of the sixth and seventh nerves, and from the fact that although tinnitus was present there was no deafness. Extra-cerebellar tumours are, as a rule, either fibromyxomata originating in the adjacent cranial nerves or gliomata growing from the ventral surface of the cerebellum; in either case the sixth, seventh, and eighth nerves are particularly liable to be involved.

Owing to the optic neuritis being more marked, and the loss of sight more complete, in the left eye than in the right; to the left pupil being dilated and fixed; to the patient deviating towards the left on attempting to walk, and to diadococinesia being more prominent in left arm, we came to the conclusion that the tumour lay inside the left cerebellar hemisphere.

We have no means of determining the nature of the growth. The negative Wassermann's reaction, however, and the fact that the patient had received anti-syphilitic treatment for over six weeks without improvement, before she came under our observation, made it probable that the growth was not a gumma.

The rapidly-diminishing power of vision and the steady exaggeration of the other symptoms of intracranial pressure rendered a decompression operation imperative. As the symptoms were of definite localising value, and as

there is always a possibility of removing the growth, we decided to perform a sub-tentorial decompression first, and if the tumour proved operable to proceed with its removal at a second operation.

Accordingly on September 19th, 1912, I performed Cushing's cerebellar decompression under hedonal anæsthesia, administered by Mr. Crawford. The outline of the "crossbow" incision can be seen on the patient. The musculo-cutaneous flaps were reflected, and the occipital bone was exposed. When clearing the bone at the occipito-mastoid suture on one side there was free bleeding from a mastoid emissary vein; this, however, was easily stopped by a small wooden plug, several of which plugs of various sizes were prepared beforehand.

An opening was made on each side through the bosses of the occiput with Hudson's drill. These openings were enlarged with Lane's rongeur-forceps till all the bone from the superior curved line above to the foramen magnum below, and to the mastoid processes on each side, had been removed. The ridge of bone overlying the occipital sinus was left to the last and then divided. The dura was found tense, and bulging to a degree which was discernible on both sides, but more marked on the left. A short incision was made parallel to the occipital sinus on each side and a director passed under the latter. The falx cerebelli was apparently poorly developed, for the director met with no impediment in the middle line. There were no emissary veins passing to the occipital sinus. The sinus was then ligatured, and the dura incised to expose the cerebellum. Gentle palpation of the cerebellum revealed a relatively firm growth in the substance of the left hemisphere. Having relieved the compression and confirmed the diagnosis the flaps were replaced and sutured in position without drainage.

The patient made an uneventful recovery. On the day after the operation she showed more interest in her surroundings than she had evinced at any period of her stay in hospital. On the second day she was sitting up and quite talkative. It is now five weeks since the operation, and there has been no recurrence of the headache or tonic muscular spasms and no vomiting. During the last week she has complained of a stiffness in the back of her head. Immediately after the operation she could see fingers with the right eye at a distance of two feet, and light appeared considerably stronger than before the operation. The condition of her left eye was not improved. Dr. Joyce ex-

amined the eyes for me and reported that optic atrophy was present on both sides, but more marked on the left. Since October 14th, when she left hospital, the vision in her right eye has got worse, and she cannot appreciate the difference between light and darkness. There is a distinct improvement in her gait, though she still has the tendency to deviate to the left.

The stitches were removed on the sixth day, and two days afterwards cerebro-spinal fluid began to flow freely from one point of the wound. For several days it discharged copiously, but it had stopped completely on the tenth day. The sinus was painted with iodine at each dressing, and at no time was there evidence of infection. Urotropin was administered before and after operation.

ART. XV.—*A Sketch of the Development of Therapeutic Immunisation.*^a By W. BOXWELL, M.D., F.R.C.P.I., Physician to the Meath Hospital and County Dublin Infirmary.

IMMUNITY to disease can come about in a variety of ways. Some are said to be naturally immune to many diseases to which others are prone, and live through many an epidemic—say of mumps or measles—without ever catching either. Others become immune through having had the disease. One attack of small-pox almost invariably makes a man immune for life.

Artificial immunity to a particular disease lasting for a variable time, can be brought about by injecting the microbes of that disease in an enfeebled form into the blood of previously susceptible people or animals. The injection acting as a stimulus to the formation within the body of protective anti-bodies. This is called active immunity. While the blood serum of an animal so protected—such as a horse—may be injected into a human being, and confer upon him as it were a ready-made immunity. Here the horse serum, charged with protective anti-bodies, acts as an antidote ; neutralising the microbial

^a Being an Inaugural Address delivered to the Students of the Meath Hospital at the opening of the Session 1912-13, Monday, October 14, 1912.

poisons exactly as an alkali will neutralise an acid. The immunity so established is called passive immunity.

It is obvious that the first and second forms of immunity are not available for practical purposes. The development and extension of the third and fourth have acted like a lode in attracting the best brains in the world of pathology since Pasteur.

How it was that Pasteur, a pure chemist, came to be the first and greatest bacteriologist is another story. Let those who do not know go and read about him. It is sufficient here to remind you that Pasteur may be said to have *discovered* microbes, and that was less than sixty years ago. When the wine and beer turned sour, he found a foreign fungus had fermented them. When milk turned sour, he found a microbe in the pail. When the silk worms withered, he found a parasite within them. When the chickens died of cholera, he found a bacillus at work, and when the cattle died, he found the long chains and whorls of anthrax in their blood. When the women died of childbed fever, he found the streptococcus; and when the Alsatian peasant child, Joseph Meister, bitten by a rabid dog, was brought to him, he inferred again a microbic origin for rabies, and cured him with a vaccine.

You notice that Pasteur used the very word "vaccine," because though no microbe had then, nor has since, been found for "small-pox," he felt that the immunity he was able to confer with his injections of enfeebled or attenuated microbes, must be the same as Jenner had conferred against small-pox by inoculation of the children with material taken from the disease of calves, known as cowpox; for that in fact is what we do in the process of ordinary vaccination.

Vaccinia or cowpox is either small-pox modified by passage through a calf, or an independent, but closely allied, affection. So closely allied that an attack of it, or what comes to the same thing, inoculation of the fluid taken from the cowpox vesicles into a human being, protects him from catching small-pox. Hence the word

“vaccination.” In the light of our present knowledge it is safe to assume that in vaccination we are planting the germs of disease in an attenuated form upon the child, the result of which is to produce a temporary local sore, the vaccination pock or vesicle, and at the same time a lasting constitutional change, which protects the child from catching either cowpox or small-pox for seven years or more.

It may not be out of place to remark that when surgical cleanliness is observed, and “calf lymph” only is used, the inoculation of any disease other than “cowpox” is impossible. The infections dreaded by those who know no better are those associated with the presence of the tubercle bacillus and the *Spirochaeta pallida*. Now the latter organism cannot be engrafted upon cattle. They are naturally immune to it, and places like the Pasteur and Jenner institutes see to it that the calves used are absolutely free from tubercle or any other disease. Where there is nothing to be feared from an overdose of tuberculin, the test is practically infallible. Ordinary minor infections are prevented by the glycerine in which the vaccine lymph is carried.

But to return to Pasteur. It was while working with cultures of the microbe of chicken cholera, that he accidentally stumbled upon artificial immunity. What he was trying to demonstrate at the time was, that some bacilli which he had found swarming in the bodies of chickens dying from a cholera-like disease were actually the cause of the disease, because if these bacilli were sprinkled on the bread with which the chickens were fed, they infallibly sickened and died of chicken cholera.

One day on returning from an unusually long holiday he repeated his experiment; but for the first time the experiment, in a sense, failed. The chickens did not take the disease. The hitherto deadly culture had failed to kill. He tried again with a fresh culture from a recently fatal case, and still these chickens would not die, whereas this fresh culture killed fresh chickens every time.

What had happened ? The old culture "attenuated" by age, had lost its death-dealing powers, and had acquired instead the priceless property of conveying immunity. Further investigation showed that the degree of virulence of the microbe varied directly with the age of the culture, and that the sub- or daughter-cultures "bred true," through successive generations, not only in the matter of virulence, but in the quality of the immunity they might be made to confer.

Here then, at last (to quote Stephen Paget), was the living agent of disease—the thing itself, the real offender—corked up in a test tube, no longer a nameless horror, but in the words of Roux' famous paper, "a thing that we could turn this way and that—stuff so plastic that a man could work upon it and fashion it to his liking."

The import of these observations was, that microbes as a source of disease were not a blind force like lightning, but—like the current from a battery—could be controlled at will, could be made to kill outright, as in the fulminating types of disease, or might be dealt out with a fractional part of their original strength and even made to become—next to the *Vis medicatrix nature* itself—the most potent curative force known to science. With these historic discoveries of Pasteur, the science of therapeutic immunisation was born.

Jenner had immunised with his vaccine it is true ; but at that date—1796—the connection between bacteria and disease was undreamt of, and his method of conveying cowpox to prevent small-pox was only one step removed from conveying the disease itself.

It was not quite a blind shot—for he had tradition to guide him—and it hit the mark ; but it seemed to be an isolated incident leading nowhere ; and for nearly a hundred years no progress was made.

Pasteur's discovery was the first link in a chain, and it was not long (1881) before he unearthed the whole mystery of the prevailing cattle plague—anthrax—and working on the same lines, cured some and protected

others by a vaccine. In 1885 he protected a child against rabies by using a vaccine made from the spinal cord of a rabbit, the virulence having been lowered by "drying," instead of by mere lapse of time. This was the great personal triumph of Pasteur's life, and the story of it is splendidly told in his biography—a book which every educated man and woman ought to read.

It is not my purpose to weary you with a bald list of the discoveries which resulted directly from Pasteur's work. An example taken here and there will be enough.

In 1881 Koch had discovered the bacillus of tuberculosis, and showed it to English physicians and surgeons at the International Medical Congress in London. In 1890 he announced to the world that in tuberculin, another vaccine, he had found the remedy. In that very year came the news that animals could be immunised against diphtheria and tetanus just as against anthrax and rabies, and the discovery of a cure for tuberculosis was confidently expected.

When Koch's announcement came no one who had followed the march of events doubted the value of his method. Was he not Pasteur's most distinguished pupil? Had he not made discoveries of first-class importance himself? It was he who had found the tubercle bacillus, and his work on cholera was a monument to his genius. The term vaccine was a word to conjure with. And yet his vaccine failed miserably, and apparently hopelessly. Some men who tried it said it actually killed their patients. The hopes of the consumptive were dashed to the ground. As Paget says: "The failure of tuberculin was one of the world's tragedies," and vaccine treatment for tuberculosis came to a standstill.

There was no doubt, however, about the value of the antitoxin serum against diphtheria and tetanus or "lock-jaw." In both cases, if given before severe symptoms developed—that is in the first two or three days—the effect was magical and protection absolute.

With the most brilliant minds the world over now

focussed upon the whole question of immunity, fresh successes in the field of Preventive Medicine were soon forthcoming. The natural histories of malaria, yellow fever, Malta fever, and plague read like fairy tales. Protection could be given against cholera, typhoid fever, dysentery and plague by means of vaccines: yet tuberculosis lagged, and still lags, behind.

It was natural that men should want to know the reason why. Countless experiments have been made into the nature of immunity, and although some light has been thrown on the process, it still abides in the main an inscrutable mystery.

In 1883 Metchnikoff had propounded his well-known phagocytic theory of immunity, according to which the white cells in the blood engulfed and destroyed the microbes.

This theory was followed by a humoral theory. Here the fluid constituents of the blood are supposed to play a more important part in destroying the microbes, while the blood cells only clear away their dead and mutilated bodies.

All sorts of views were held—many more or less fantastic—but, amid a conflict of opinion, Almroth Wright, a countryman of our own, stepped into the field with one prime factor established—namely, that, whatever other protective elements might or might not exist in the blood, there was one, which he called “opsonin,” and which was called into being in variable quantity under the stimulus of microbic infection.

This substance acts upon the live microbes—or, as he put it, prepares them as food for the blood cells—so that more microbes are engulfed than otherwise would be the case. He established the fact that when the dead bodies of these very microbes were injected into the blood in suitable doses, the amount of this substance was markedly increased. There followed a sort of high tide of “opsonin” in the blood, and during its flow many bacteria were killed and engulfed. This tide ebbs and flows, and during

the ebb the microbes make headway. He found, moreover, that this tide might be controlled to a great extent ; that the ebb or flow depended upon the *size* of the dose and the *interval* between the injections, and he invented a method for determining the correct dose and the time at which it should be given to ensure the best result. He learnt, too, by experience, that if the dose was given at the wrong time, or was too large, the tide often fell to an alarming or even fatal level.

Here, then, was at least one reason why Koch's tuberculin had failed. There was no method available for finding out anything about it beyond what could be gathered from the condition of the patient himself ; and when tuberculin was first put on the market, there was a rush made for it. It was given ignorantly—by ignorant people—with desperate results alike to the patients and to the authors of the method. It was a “joy-day” for the antivivisectionists.

As Wright's work extended, it was found that this substance, “opsonin,” was specific for each individual kind of microbe—that is to say, each separate kind of microbe produced its own peculiar kind of opsonin, protective against that microbe and against no other.

Further, an opsonin rise could be induced against almost every known microbe, whether disease-producing or non-disease-producing, and even against such “quasi-vegetable” growths as “actinomyces” or ray-fungus, and the pollen of plants.

Now, if we exclude mechanical injuries and possibly tumour growths, practically all acquired disease has a microbic origin. And here was a weapon which, in skilled hands, might be used effectively against the whole range of infective disease, provided the microbe could be found.

This was Wright's idea. It was a grand conception, and he forthwith proceeded to carry it out and set about preparing his vaccines.

Wright's vaccines are not such as are used for small-pox or rabies, which consist of material carrying a living,

attenuated, but as yet unknown microbe. They are doses of the microbes, known to be the particular cause of the disease in question, killed by heat and injected in known quantities.

In order to find the microbe, material, such as "matter" from a boil, phlegm from bronchitis, or blood from a vein, is taken and "sown" upon a surface of sterilised jelly made from seaweed, exactly as you might take a handful of chaff mixed with various seeds and sow it on prepared ground in your garden. In the course of a few hours the germs grow in little colonies, and a bacteriologist can often name the microbe by the naked eye appearance of its growth, just as a gardener will name the seedlings in a potting shed.

All bacteriologists and all gardeners are not equally skilful. Some gardeners will take the most unlikely thing and apparently plant it just anyhow, and it grows to perfection. Others, with infinite care, only succeed as it were by accident; and so it is with bacteriologists—"Non cuivis homini contingit."

Having obtained a sufficient growth of the desired microbe in pure culture in a tube, he washes it off the jelly with salt water, and shakes it thoroughly to form a uniform suspension of the microbes. The number of microbes in a measured quantity of this suspension is now counted under a microscope, and the whole suspension, in a hermetically-sealed glass tube, is killed by heating in a water bath. This, then, is the vaccine, and when it has been proved, by sowing a little of the suspension on a fresh sterile tube of jelly, that the microbes are all dead and incapable of producing any disease when injected, it is ready for use. To make assurance doubly sure a drop or two of carbolic acid is added to the stock of vaccine.

It sounds a simple process, but it demands infinite patience, useful hands, and absolute honesty in work, and any man (I speak to the students) who undertakes to make vaccines without these qualifications is a danger to Society.

When Wright began his work he found that some

infections yielded less readily than others, but in many his success was immediate and startling. Working patiently, with his distinguished colleague, Douglas, and guided ever by his own peculiar "touch-stone"—the opsonic index—he attacked, syringe in hand, the infections one after another. Tubercle (Hydra-headed), typhoid, pneumonia, bronchitis, asthma; sepsis in its myriad forms, including peritonitis, septicæmia, childbed fever; and even such lesser ailments as "toothache," "cold in the head," hay fever, boils and blains, and "black-heads." Surely a formidable list, and yet by no means complete.

It was a giant's task, one to fire any man's imagination. It is the direct continuation of Pasteur's own work, and it has been given to an Irishman to carry on the torch.

Let it be noted that in the field of Medicine, especially of Preventive Medicine, every great step forward of recent years has been due to the work of pathologists. What is the value of the delicate handling of a drug or combinations and permutations of drugs compared with work which has made small-pox almost a thing forgotten, which has swept Malta fever from our armies and navies, which has protected regiments against typhoid fever, and made possible the cutting of the Panama Canal by abolishing malaria and yellow fever?

Already great strides have been made against many of the most horrible forms of tuberculosis.

When vaccines do their work, they cure without scarring and without deformity. As it is, many nearly blind have been given back their sight, and, as Wright says, it is only a matter of time before the high-booted cripple and the hunchback shall disappear from our streets.

There is hardly a known form of infective disease in these islands against which Wright has not battled, and met with a large measure of success. Here is a short extract from the report of his department published this summer (1912):—

"Many a grim story of struggle against long odds has

come to light in this department. For it has happened, not unnaturally, that our advocacy of a new system of treatment has evoked a challenge to demonstrate its utility *first* upon the most difficult class of patients—the undesirable of every general hospital, the unresponsive to every form of treatment. Here we have in mind, not so much consumptives, and those whose span of life can be foretold in months, but that considerable class on whom tuberculous or other disease makes less impetuous claims, sparing the lungs, but quietly destroying, scarring, crippling other parts of the body over a period of many years. A dozen faces immediately come to memory—children and young adults—who, when they came to the department, could recount already a series of ten or twenty adventures with surgery, and whose few years, despoiled of schooling and employment, had been spent nursing one part after another back to some degree of health.”

How familiar is this picture to all of us who know the “Smyly Ward” and the extern department of this hospital, and when we hear men decrying the vaccine treatment of tuberculosis let us remember that a leading English physician had his life-long opposition to vaccination for small-pox engraved upon his tombstone.

There is one drawback to Wright’s method, and that is the difficulty of using his touchstone—the opsonic index. He and his school know how to use it, and use it daily. In their hands it seems unerring. But many, even skilled bacteriologists, have not met with the same success, and the very existence of his “opsonin” has been scoffed at by lesser men. Yet think what the “index” has admittedly accomplished. Without it tuberculin treatment would not yet have been revived at all. And those who would relegate the “index” to the limbo of anachronisms forget that to it they owe their knowledge of the dosage of those other vaccines now in daily use.

This “index” has another priceless faculty—it can be made to work backwards. By its delicate response to the

stimulus of microbic infection, it can be made to indicate which of many is the real offender, and having pointed him out, it tells you what dose is most likely to destroy him.

For the successful treatment of the more severe forms of tuberculosis, a knowledge of the working of the index is at present a *sine quâ non*. There are many cases of that exquisitely painful condition, vesical tuberculosis, that have been set back indefinitely by a single incautious overdose; and, mind you, the handling of tuberculin is a delicate business. The doses are measured in parts of a milligram of killed and ground-up tubercle bacilli, and a common dose is $\frac{1}{10000}$ th of a milligram—just as delicate a thing as exposing photographic plates, when the exposures are measured in $\frac{1}{1000}$ ths of a second. Similar caution is requisite in the treatment of pulmonary tuberculosis by vaccines. All sorts of considerations have to be taken into account, mainly dealing with the prevention of auto-inoculations by enforcing absolute rest. So difficult is it, and requiring such patience, that most practitioners have given it up altogether, and yet for many consumptives this method holds out the only hope of cure.

As Wright has pointed out, only about half the cases owe their low resistance to unhygienic surroundings, and these are the cases that may do well under ordinary rest, “fresh air,” and sanatorium treatment. Of these many show marked improvement under vaccination in spite of the most desperate surroundings, and *post-mortem* findings, as well as other evidence, go to prove beyond doubt that many consumptives have got well without any treatment at all. The other half belong to the well-to-do, many of them living in the best possible surroundings, and still they suffer. For these there is nothing for it but inoculation.

In phthisis half the mischief is due to other microbes, two or three often working together side by side with tubercle, and these have to be ferretted out and removed *seriatim*, each with his own appropriate vaccine. Yet

this can be done, but it takes skill, patience, experience, and above all a conscience. The work demands enthusiasts, men of the highest type we can produce, men with ideals, not tradesmen, nor yet fledgling specialists let loose after a fortnight's incubation upon a wondering world.

If it is asked how is this work to be done, and where are we to get the men? My answer is "Here among the students of Medicine—qualified and unqualified—of the Dublin hospitals. There ought to be a vaccine department within the walls of this and of every General Hospital.

Vaccine treatment has been carried on here in a tentative way—a very small beginning—but still something has been done, but it is crying out for organisation. There is a flourishing department at the Rotunda Hospital, under Dr. Rowlette's able management, and in the South Dublin Union, Dr. Dunn has already done fine work among the poor consumptives. But it is in the pathological laboratories of the General Hospitals, in the wards, and in the extern departments that the best work alone can be done. The laboratories of the medical schools are not the places for it. For success we require not only the technical skill of the bacteriologist, but the experience, judgment, and second-sight of the surgeon and physician to read the signs aright. We must have sympathy and co-operation between the great departments. They have much to learn from one another.

In conclusion, I would remind you that in our own pathologist, Professor A. H. White, we have a man who was among the first in Ireland to take up the serious study of the new treatment; one, too, who has devised an original and admirable substitute for the all-too-intricate and tedious opsonic index—a method directly applicable to more than half the cases we should have to treat.

This old Hospital was once in the very vanguard of the world's march against disease—let us no longer be camp-followers.

This is Pasteur's own work, and since the day when the

Great Physician healed the sick in Galilee no man has done so much for suffering humanity as Louis Pasteur. His motto was : *Il faut travailler*. Let us be up and doing, "for the night cometh when no man can work."

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the College held on Thursday, October 16, 1912, the following gentlemen, having passed the requisite examinations, on 13th July last, were admitted Fellows :—
 George William Bury, M.B., Ch.B. (Vict. Univ., Manc.), Stoke-on-Trent ; Robert George Mercier Clements, M.B., Ch.B., M.D. (R.U.I.), D.P.H. (Queen's Univ., Belfast), Belfast ; James Grieve Cormack, L.R.C.S.E. (Triple Qual.), Peking ; Arthur Fells, M.B., C.M. (Univ. Edin.), Bristol ; Howell Woodwell Gabe, M.R.C.S. (Eng.), L.R.C.P. (Lond.), Morriston, Glam ; Norman James Gerrard, M.B., B.S. (Univ. Melbourne), Australia ; Arthur Clinton Hendrick, M.B. (Univ. Toronto), Toronto, Canada ; Corrie Hudson, D.S.O., M.R.C.S. (Eng.), L.R.C.P. (Lond.), Major, Indian Medical Service ; John Warwick Illius, M.R.C.S. (Eng.), L.R.C.P. (Lond.), Captain, Indian Medical Service ; Fritz Kahlenberg, M.R.C.S. (Eng.), L.R.C.P. (Lond.), Dunedin, New Zealand ; Vaughan Lloyd-Evans, M.B., Ch.B. (Univ. Edin.), Warwick ; Ronald Bute Macfie, M.B., Ch.B. (Univ. Edin.), Edinburgh ; Alexander M'Murray, L.R.C.S.E. (Triple Qual.), Belfast ; Leonard Myer, M.R.C.S. (Eng.), L.R.C.P. (Lond.), London, W. ; Charles Treweeke Hand Newton, M.B., Ch.B., M.D. (Univ. Edin.), Christchurch, New Zealand ; Gerard Ford Porter, M.B., Ch.B., M.D., Prestwich, Manchester ; William Ross, M.B., Ch.B. (Univ. Edin.), Sea View, Forres ; William Elmsley Scott-Moncrieff, M.B., C.M., M.D. (Univ. Edin.), Major, Indian Medical Service ; Arthur Arbuthnot Straton, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.B., Ch.B. (Univ. Lond.), Wilton, Salisbury ; Leonard Whitaker Owen Taylor, M.B., Ch.B. (Univ. Edin.), Nottingham ; William Stuart Thacker, M.B., Ch.B., M.D. (Univ. Dublin), Dublin.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

IRISH UNIVERSITY CALENDARS.

1. *The Dublin University Calendar for the Year 1912-1913, to which are added the Ordinary Papers set in the Year 1911-1912.* Vol. 1. Dublin: Hodges, Figgis & Co. 1912. 8vo. Pp. viii + 64* + 514.
2. *The National University of Ireland Calendar for the Year 1912.* Dublin: Alex. Thom & Co. London: Longmans, Green & Co. 1912. Pp. iv + 428.

1. As usual, Volume I. of the Dublin University Calendar for the Academic Year which commenced in October, contains full information as to the Ordinary and Honour Courses in Arts and in the several Professional Schools. Undergraduates also will be glad to have before them the papers set at the ordinary Term Examinations held during the last Academic Year.

At page viii will be found a very useful reference to the principal changes in the courses of study made during the past year. One of the most important of these changes, perhaps, is the institution of Sc.B. degree. The qualifications for this new degree of *Bachelor in Science* are research and advanced study in any important branch of Mathematical, Experimental, Natural, or Applied Science. The conditions to be fulfilled to obtain the degree are set out in detail at page 7 of the Calendar.

In Trinity Term, 1912, Mr. Gerard Alston Exham, M.A., one of the Fellows of Trinity College, founded a prize of about £12 annually for the encouragement of a practical knowledge of French, to be called "The Dom-pierre Chauffepié Prize," in memory of a very great friend

of his who died recently. It is to be given in Trinity Term of each year in connection with the Senior Freshman Honour Examination in French.

The Editor of the Calendar is to be congratulated on the manner in which this volume has been published.

2. WE regret that a notice of the Calendar of the National University should be so belated, but the volume did not reach us until October 16. when our November number was already passing through the press

First among the "Contents" of the "Calendar" we find the "Irish Universities Act (1908)," the Charter of the University, and "Statute I. of the National University of Ireland." Any provision in the sixty chapters of which the statute consists may be cited by a reference to the statute, chapter, section, and sub-section—for example, Stat. I., N.U.I., xxxiv., 2 (a).

Full information will be found in the subsequent part of the Calendar touching the University and its constituent Colleges, rules of examinations, courses for the examinations in Arts and the various Faculties, University fees, changes in the courses for 1913, and lists of the Senate, Members of Convocation, Graduates of the University, University Honours, Degrees conferred in 1911, and successful candidates at the Examinations held during that year.

The "Calendar" is well brought out, and is daintily bound in dark olive-green cloth.

Public Health Law. An Epitome of Law applicable to England and Wales and Scotland. By WILLIAM ROBERTSON, M.D. (Glas.), D.P.H., and ARCHIBALD M'KENDRICK, F.R.C.S. (Edin.) D.P.H. Edinburgh: E. & S. Livingstone. 1912. Cr. 8vo. Pp. xii + 397.

THE law relating to public health is a subject with which every medical man should be familiar. It concerns not merely the medical officers of health and sanitary inspectors, but the whole medical profession, and, to a large extent, the laity also. The statutes are many and

their sections numerous, so that it is difficult to lay one's finger on the section dealing with a particular contingency. Some men, armed with coloured pencils, underline in red and blue the more important parts of the Acts, and so make sign posts for themselves by means of which they can find their way through the forest of unimportant matter. Others again prefer to take note-book in hand and "tabulate" the principal sections in succinct form. But many more fail to undertake either of these steps, through lack of time or lack of patience, and it is for them chiefly that such works as that under review are produced.

The joint authors are William Robertson, M.D. (Glas.), D.P.H., whose numerous qualifications and appointments are set out at length in an inverted pyramid upon the frontispiece, and Archibald M'Kendrick, F.R.C.S. (Edin.), D.P.H. As their names at once betray, they are both Scotchmen, and the book deals largely with the Scotch Law. To the Scottish Public Health Code is given pride of place. Next in order come the Act of 1875, and other kindred English statutes, and then follow those Acts that are applicable to the United Kingdom generally. The statutes are given in concise form and footnotes are appended to the various sections. Occasional reference is made to the Irish and to the London Public Health Acts.

Twenty-two pages at the end of the work are devoted to the subject of vital statistics. The various methods of ascertaining the population, the birth and death rates, and comparative mortality figures are explained in such a way as to be readily understood. In the space at the disposal of the authors, necessarily small owing to the purpose of the book, the calculation of the population by means of logarithms is fairly well described. The reader not well versed in mathematics may, perhaps, be puzzled when he finds $\log. 3.824843$ described as equal to 6680.9 instead of $\log. 6680.9$ as equal to 3.824843. A very curious error has crept into the example given of the method of calculating the comparative mortality figure. We rubbed our eyes with astonishment when we

read that a death-rate of 15.36 per 1,000 means that out of every 15,360 persons 1,000 died. If this were so, then by analogy a low death rate of 5 would mean that out of every 5,000 inhabitants 1,000 died, a truly awful conception. We pity from the bottom of our heart that city that has a death-rate of only 1 per 1,000 !

For the purpose of revision in subsequent editions, we should like to mention a couple of slight slips that we noticed. In the table on page 370 the towns set out in the list of "Towns in order of their corrected death rates" are *not* in order of their corrected death rates. Again on page 380 we are referred to "the *following* table" which appears on page 379.

The book ends rather abruptly on page 381, in an attempt to construct a life table. Taking for granted that the deaths, represented by the letter D, are equally distributed over all the year, and the $\frac{1}{2}D \left(\frac{D}{2} \right)$ occurs in the first half and $\frac{1}{2}D \left(\frac{D}{2} \right)$ in the second half of the year, we learn that the population falls (if the population be taken as 1,000) from $1,000 + \frac{D}{2}$ at the beginning of the year to $1,000 - \frac{D}{2}$ at the end of it. If it is understood that all births and changes within the period are to be omitted, then few will be found to dispute this proposition so far as it goes, but it goes no further. We turn to the next page for the other steps necessary to complete our life table, but find it blank. It is not that the type or ink has given out, for a short appendix of excerpts from model by-laws and a good index follow. A. R. M.

Diseases of the Throat, Nose, and Ear. By W. G. PORTER, M.B., B.Sc., F.R.C.S.Ed. Bristol: John Wright & Sons. 1912. Demy 8vo. Pp. xii+275.

THE task of a specialist who attempts to produce a book for students, dealing with his particular branch, is always

one of considerable difficulty, and the author's success may be gauged by his powers of omission rather than by noting all that he has decided to include. His difficulty is increased threefold when the author's task is to describe the diseases of the nose, throat and ear within the limits of one book, which book must be kept of such a size and character that it is within the time and purse limits of the average student.

Congratulations must be extended to the author of the book under review, in that he has succeeded in giving short and useful descriptions—without too obvious omissions—of all the various affections likely to be met with by the student. Further, his common sense in leaving out pictures of instruments and anatomical details is to be commended.

The reader will find the arrangements of the chapters clear, and the coloured drawings of a high order of merit, depicting not out-of-way affections, but forms of disease met with in every day practice. In this connection the author's description of pachydermia laryngis is accurate, but his drawing is of an unusual form, more like "singers' nodes" than true pachydermia; also, under the heading of chronic pharyngitis, why not mention the nose as one of the causal agencies connected with that malady?

The short account of labyrinthine tests is one of the clearest that we have met with, and is condensed into about two pages. The drawings of the drumhead appearances in plate 7 compares favourably with the famous ones of the great master Politzer.

We consider that teachers may recommend the book to their classes, and the student will get for seven shillings and sixpence what he would have to pay at least half a sovereign for in separate volumes.

St. Luke's Hospital. Medical and Surgical Reports.
Volume III. 1911. Brooklyn, N. Y.: William G.
Hewitt. Demy 8vo. Pp. xii + 353.

This third volume of Reports exceeds its predecessor in size by about one hundred pages. It is well and fully

illustrated, the diagrams and half-tone blocks, especially those of skiagrams, setting up a standard at which much more pretentious publications might aim.

Among the more interesting articles will be found one describing the removal of vesical papillomata by means of high frequency currents, a method of treatment which seems especially well adapted to cases such as that which is mentioned, where the growth surrounded the orifice of the ureter.

The range of subjects alluded to is wide, including a case of violent neuralgia referred to a hand and arm which had been previously amputated. Though the scar was freely movable and the stumps insensitive, the pain persisted even after section of both the posterior and anterior roots of the last three cervical and first dorsal nerves. Perhaps hypnotic suggestion might have been more successful, or the treatment described in a modern novel where an almost identical case was immediately and completely cured by the interment of the amputated limb in consecrated ground.

The Surgery of the Rectum for Practitioners. By SIR FREDERICK WALLIS, M.B., B.C., Cantab.; F.R.C.S.; Surgeon to Charing Cross Hospital, St. Mark's Hospital, and the Grosvenor Hospital for Women and Children. London: Henry Frowde and Hodder & Stoughton. 1912. Pp. 355, with 129 Illustrations.

THIS book is an enlarged edition of the one published by the author in 1906. Several of the chapters are new, and in the remaining chapters many necessary additions have been made, while the illustrations have been more than doubled.

The book has been brought up to date, and should fulfil the aim of the author "to present the surgery of the rectum of the present day in a practical and condensed form to young surgeons and practitioners."

In discussing the various operations for rectal carcinoma the author tells us that he has endeavoured to de-

scribe those operations which are least complicated and the most practical, and refers those who wish for fuller details to special papers published elsewhere. We cannot help regretting that the author did not give fuller details, for one is inclined to think that this chapter has not been properly brought up to date.

It is sad to know that the author has not survived to see the completion of his work. The last proofs were corrected but a few days before his death.

RECENT WORKS ON DISEASES OF THE SKIN.

1. *The Care of the Skin in Health.* By W. ALLAN JAMIESON, M.D., F.R.C.P. Ed. London: Henry Frowde and Hodder & Stoughton. 1912. Cr. 8vo. Pp. 109.
2. *The Care of the Skin and Hair.* By WILLIAM ALLEN PUSEY, A.M., M.D. New York and London: Appleton & Co. 1912. Cr. 8vo. Pp. xiii + 182.
3. *Goulstonian Lectures on Modern Views upon the Significance of Skin Eruptions.* By H. G. ADAMSON, M.D. Lond., F.R.C.P. Lond. London: John Bale, Sons & Danielsson. 1912. 8vo. Pp. 103.
4. *The Treatment of Diseases of the Skin.* By W. KNOWSLEY SIBLEY, M.A., M.D., B.C. Camb. London: Edward Arnold. 1912. Cr. 8vo. Pp. viii + 280.

1. THIS small and rational book has been already noticed in this Journal, Sept., 1912, and we refer to it now merely by way of contrast to the next on our list.

2. DR. PUSEY'S book covers a wider area than Dr. Jamieson's, for it includes not only the care of the healthy skin, but also briefly discusses its commoner disorders. We do not quite go with either Dr. Jamieson or Dr. Pusey in their idea that there is such a specially widespread and keen desire among the public for a healthy skin as to require minute and elaborate directions. We also suspect that the writer has some qualms about a possible misuse of his book, for he is careful to state that his aim was to "write a book chiefly on the hygiene

of the skin, and not a book on the self-treatment of skin diseases, and certainly not one to foster the mischievous habit of self-medication."

Quite right and proper. Why then describe a number of defects and maladies of the skin for the real relief of which it is necessary to consult a physician?

Coming from the pen of a skilled dermatologist, it is needless to say that the information supplied is correct, but the book is unnecessarily diffuse and might with advantage have been compressed into a smaller space.

3. THIS book belongs to an entirely different category. It is not a popular or semi-popular *rechauffé* of elementary knowledge, but rather represents a careful and well-planned account of modern views upon the pathology and significance of diseases of the skin.

Dr. Adamson recalls the fact that the office of Goulstonian lecturer has not been held by a dermatologist since Dr. Liveing gave his classical lectures on Leprosy in 1873, now nearly 40 years ago.

The tone of the lectures is strictly scientific, and many illuminating suggestions that awaken thought are scattered through its pages. Some sections—*e.g.*, the relations of skin diseases to toxins—are, from their nature, somewhat vague; speculation is apt to outrun knowledge. Several curious and instructive experiments are related which seem to indicate that even the more superficial ringworms are not merely saprophytic in the horny tissues, but that they also give rise to some degree of general immunity reaction.

For many years the reviewer has persistently protested against the popular doctrine of the close relations between gout and skin diseases, and it is refreshing to read Dr. Adamson's disclaimer against this fetish:

"Gout, so often accused of giving rise to skin eruptions, and to eczema especially, has been long since, to a great extent, discredited by dermatologists. It is certain that one may see hundreds of cases of *eczema* without ever meeting with a case of gout. In fact, a gouty patient is practically unknown in a skin clinic, although many

patients who have skin complaints—even scabies or eczematoid ringworm of the groins and toes—consider these complaints manifestations of gout” (p. 57). At p. 49 a singular misprint occurs—viz., “Professor J. T. Cash, of Dublin” (*sic*), whereas every one knows that the distinguished Professor is one of the northern lights of the Granite City.

The book is well worth reading.

4. NUMEROUS as are treatises on dermatology which seek to cover the whole ground, there are but few books which pass by diagnosis, description, and pathology, and deal only with treatment.

Many years ago Dr. R. Liveing published an excellent and useful small book limited to the treatment of diseases of the skin. Since that time many new methods of treatment have been discovered and largely utilised. While a few of these are still on trial it is quite certain that we now possess several important and trusty therapeutic weapons which were not available twenty years ago.

Dr. Sibley aims at giving a succinct and practical account of the present status of cutaneous treatment, and his book fulfils, we think, its claim to be a handy reference book for students and practitioners.

The most striking advances lie within the sphere of physico-chemical methods—*e.g.*, X-rays, electrolysis, cataphoresis (ionic medication), CO₂ snow, and radium.

On all these topics brief, but sufficient, directions are given for their application to practice. In the body of the text no classification is adopted, and the different diseases are simply arranged in alphabetical order. Considerable space is allotted to hyperæmia and to Bier's methods of treatment of this condition by (*a*) hot air; (*b*) by suction cups or exhaustion apparatus.

If the author's favourable results are confirmed by others, we have here at our command a simple and efficient means of combating many cutaneous disorders. The book concludes with an extensive assortment of selected prescriptions for external applications.

In the next edition care should be taken to correct the somewhat numerous misprints—*e.g.*, Pacquelin (*passim*), thioeyamine, arygria, curasse (cuirasse), hypophosphates, lotio triplicis (*sic*). Pyrogallol is a synonym of pyrogallic acid, but chrysarobin is not synonymous with chrysophanic acid. What is "glycerine cerine of lead?" p. 153.

Kidney Diseases. By W. P. HERRINGHAM, M.D., F.R.C.P.; Physician to St. Bartholomew's Hospital, &c., &c. With Chapters on Renal Diseases in Pregnancy by HERBERT WILLIAMSON, M.D., F.R.C.P.: Assistant Physician-Accoucheur to St. Bartholomew's Hospital, &c. Oxford Medical Publications. London: Henry Frowde; Hodder & Stoughton. 1912. Demy 8vo. Pp. xvi + 378.

THE volume before us is full of information, and is written in a most delightfully easy style. As one reads it one can almost feel that the author is beside one chatting on the problems that necessarily confront the clinician in dealing with kidney disease. The book is indeed written entirely from the clinical aspect, and will therefore appeal most to the practising physician. It is extremely nicely got up, with exceptionally clear print, and is fairly well illustrated with photographs and micro-photographs of pathological specimens. The anatomy and physiology of the kidney are first briefly dealt with, and are followed by chapters dealing with the principal urinary abnormalities under the headings hæmaturia, hæmoglobinuria, &c. Nephritis is next exhaustively discussed. Each chapter bears evidence of considerable thought over the question dealt with on the part of the author, and practical common sense is everywhere evident. It is quite impossible in a brief review to do more than touch on a few of the features of the book, but we may point out that the author's views on prognosis in nephritis differ considerably from those that are generally taught. He believes that a nephritic patient can practically live on indefinitely provided he takes some care in avoiding chills, limiting his diet, &c., and with this view any physician of experience will agree.

The probable reason for the older very serious view of kidney disease lay in the fact that systematic examination of urine was not practised, and that in consequence chronic nephritis was not diagnosticated until the disease was so far advanced as to completely incapacitate the patient. In discussing the management of a case of acute nephritis, in which hamaturia proved very persistent, Dr. Herringham points out the fact that allowing the patient to get up and go about often proves beneficial. Although no general rule on the subject can be laid down, we may say that our experience in these cases is the same as above. In Dr. Williamson's chapters on kidney disease in pregnancy a careful and systematic account is given of a difficult subject. The connection between nephritis of pregnancy and other forms of nephritis is discussed, and treatment is very fully described. In conclusion, we can strongly recommend the book to all physicians as a useful contribution to the clinical study of renal disease.

RECENT WORKS ON CHILDREN AND THEIR DISEASES.

1. *Mother and Baby.* By SELINA F. FOX, M.D., B.S. London: J. & A. Churchill. 1912. Cr. 8vo. Pp. xvi + 200.
 2. *Aids to the Treatment of Diseases of Children.* By JOHN McCaw, M.D., R.U.I., L.R.C.P. Edin. Fourth Edition. London: Baillière, Tindall & Cox. 1912. Fcap 8vo. Pp. xiv + 431.
 3. *Occasional Papers on the Prevention of some Common Diseases in Childhood.* By J. SIM WALLACE, D.Sc., M.D., L.D.S. London: Baillière, Tindall & Cox. 1912. Demy 8vo. Pp. vii + 103.
1. OF the making of books concerning mothers and babies there appears certainly to be no end! There is no excuse for the young mother nowadays who does not equip herself with all the knowledge necessary to enable her to take proper care of her child. In Dr. Fox's little book

she is also instructed to take care of herself, as the first chapter is devoted to the management of pregnancy and the preparation for the confinement. After this follow the usual chapters on bathing, feeding, and dressing the baby, along with much excellent practical advice on general nursery management, and the book concludes with a couple of chapters on common ailments and "first aid."

The matter for the book is well chosen, and, as a whole, this little work does not suffer from the faults of extreme condensation or extreme verbosity common enough in others of its kind. Some bad omissions and sweeping assertions occur, however, which are flaws in the general excellence of the book. For instance, the much-debated subject of the cause of rickets is dismissed with the assertion that it always follows the use of sterilised milk and patent food; no reference to any other fault in the diet or hygienic conditions being made. The whole subject of the pasteurisation of milk is left out—same rather vague remarks as to scalding milk taking its place. Many other points also are open to criticism—*e.g.*, advocating the use of the dummy under any circumstances whatever; but, on the whole, the book is one to be strongly recommended to young mothers. It is extremely simple in its language, and the illustrations and well-chosen little quotations combine to make it very attractive.

2. ANOTHER addition of this marvellous *multum in parvo* has appeared and is welcome. It was always a masterpiece of condensation, without omissions or curtailment, and now that new matter is added the wonder grows how this tiny volume should contain a complete treatise on pediatrics. The reader has, of course, to put up with terribly small print and a style which is rather reminiscent of the grind-room; but even in spite of these drawbacks the book is eminently readable and very valuable for reference. The additions on the subject of acute anterior poliomyelitis, &c., are very good, but it seems a pity that epidemic cerebro-spinal meningitis is still classed among nervous diseases.

The index leaves a good deal to be desired.

3. IN these papers Dr. Sim Wallace conducts a violent crusade against oral sepsis in infants, school children, and even in nursing mothers. The fault, in his opinion, is altogether one of dietary, and those articles of food should be chosen which not only do not ferment between the teeth, but also which actually cleanse the mouth and teeth in process of eating. With regard to older children much of what Dr. Wallace says is very true, but with regard to the younger ones it may be pointed out that even if man does not live by bread alone, neither does he die from oral sepsis alone, and the breakfast, containing apples, lettuce, radishes, &c., which he advocates, though excellent from a dental point of view, might not rear as healthy a child as the porridge and milk which he so unsparingly condemns.

A crusade against dental caries is one that it badly needed, and the writer's severe remarks about the carelessness of the medical profession are doubtless often deserved, but he will not further his cause by fanaticism, and it is well to realise that *all* ills do not come from oral sepsis any more than from uric acid or calcium chloride in the blood!

Infantile Paralysis in Massachusetts during 1910, together with Reports of Special Investigations made in 1911 bearing on the Etiology of the Disease and the Method of its Transmission. Boston: Wright & Potter. 1912. Pp. 154.

THIS very valuable contribution to the study of infantile paralysis is very welcome. The volume is made up of a series of papers, to wit:—(1) The Occurrence of Infantile Paralysis in Massachusetts in 1910; (2) Attempts to transmit the Disease to Monkeys by Inoculation; (3) Paralysis in the Lower Animals; (4) Infantile Paralysis in the Fall River City in 1910; (5) Infantile Paralysis in Massachusetts, 1907–1910; (6) The Springfield Epidemic of the Disease; (7) The Etiology of the Disease; (8) The Blood in Infantile Paralysis; (9) Serums and Vaccines against the Disease; (10) Prognosis. We give a list of the

papers to enable the reader to form an opinion of the wealth of information the volume contains. The first paper, by Drs. Lovett and Sheppard, gives an historical sketch of the literature of the disease in modern days : Osgood and Lucas' discovery of an active virus in the nasopharynx of a monkey ; Flexner and Clark's introduction of the internal use, in this disease, of hexamethylenamin, which was introduced into medicine in 1894 by Nicoalier, and recommended as an internal antiseptic by F. P. Guiard in April, 1905, and of Anderson and Frost's method of diagnosing the disease by a serum test. In the second paper we get an account of eighteen unsuccessful efforts to infect monkeys with the virus of the disease. The failure is ascribed to the use of a virus too much diluted. A good account follows of the epidemic of the disease in the City Fall River in 1910, in which the prominent features of 75 cases are given. The fifth paper, by Drs. Lovett and Richardson, begins with a short historical introduction, which is lifted from Wilhelm Heinrich Erb's monograph on "*Poliomyelitis Anterior Acuta.*" They even follow Erb's mistake as to the date of Underwood's book, 1784. Michael Underwood was no ordinary man ; he was one of the most acute observers of his day and honourably won his way to the front. In 1706 he was born in Surrey, and became a surgeon-apothecary, and a licentiate of the College of Physicians, London ; after some years he got his M.D. from one of the Scottish Universities. He was appointed physician to the British Lying-in-Hospital, and was called on to attend H.R.H. the Princess of Wales, at the birth of the Princess Charlotte. He published three books :—" *A Treatise on Ulcers of the Legs, Scrophulous Sores, and Mammary Abscesses,*" 8vo, London, 1783 ; " *Surgical Tracts on Ulcers of the Legs,*" 8vo, London, 1788 : and " *A Treatise on Diseases of Children, with General Directions for the Management of Infants,*" 2 vols., 8vo, London, 1795. In this latter we have the clinical pictures of infantile paralysis, on which his fame rests. Without wishing to detract in any way from Jacob von Heine we cannot credit

him with more than confirming the observations of Underwood and Duchenne ; and, as Erb honestly affirms, "Cornil (1863) was the first to recognise distinct alterations in the spinal cord itself in this disease."

Although we have exceeded bounds we are unwilling to close without noticing the splendid work done in the investigation of the disease in the lower animals—the most promising field of research—and the investigation of the possible transfer of the disease by vermin, insects, rodents and so forth. We notice with great pleasure that in the great majority of the cases the prognosis was favourable, although in many instances recovery was delayed for months and in rare cases for years.

Psychotherapy : Including the history of the use of mental influence, directly and indirectly, in healing and the principles for the application and energies derived from the mind to the treatment of disease By JAMES J. WALSH, M.D., Ph.D. ; Dean and Professor of Functional Diseases and of the History of Medicine at Fordham University School of Medicine, and of Physiological Psychology at the Cathedral College, New York, &c. London : D. Appleton & Co. 1912. Royal 8vo. Pp. 806.

THIS is a pretentious work, and embraces all of the subjects lectured upon by its author at Fordham University School of Medicine. It is dedicated to the Jesuits, "to whom the author owes a happy introduction to the intellectual life and constantly renewed inspiration in his work this book is respectfully and affectionately dedicated."

One does not often find such a dedication in a work on a progressive medical science, but one may gather from its pages that the author aims principally to place before the general reader, rather than the specialised alienist, the every-day lessons of psychotherapeutics and the benefits to be derived from suggestion in the treatment of disease.

The work is interesting, but cannot be said to have much clinical value. Much of it is devoted to cases of ordinary diseases treated on ordinary common sense lines, and the usual medical remedies. Such cases should find no lengthy place in a work devoted to psychotherapeutics. As although interesting in a work on the practice of medicine, they have little connection with the author's subject. Many of the writer's conclusions are somewhat hastily arrived at. "Martyrs," he states, "for all manner of causes, are able to withstand suffering with such equanimity, and sometimes even joy, that it is evident that they cannot feel, as would persons under ordinary conditions, the pain that is being inflicted on them." We hope the author is right in this, but we own to have always felt a shudder for poor Joan of Arc, and one cannot but think that pain and fatigue sense must have yielded tardily to the faggot, the rack, and the thumb screw, and one does not expect to find these speculations as regards the sufferings of martyrs side by side with diagrams of cortical structures from the works of Barker, Ramon y Cajal and after Stan Stuy and Leaming. It is evident that the author has had much medical experience, and has approached his cases with a desire to fully grasp their psychological states and endeavour to use his specialised knowledge of psychotherapy to the relief of their conditions—"To pluck from their memories a rooted sorrow."

Much that he says is true of the female mind and body. Dealing with the subject of dysmenorrhœa, he says:—"We have not weaker bodies than our forefathers, but weaker wills." This is especially so with those who have much time to think about themselves, and, therefore, is more true of women than of men, though in our generation men also have become very introspective." Hard work and a peasant's life of toil free women, he thinks, largely from the gynæcologist's table. Financial loss and poverty drive women into health and free them from menstrual disorders.

The work is both interesting and thorough, somewhat

discursive and wide of what one would expect in such a book, is readable, and contains much practical psychotherapeutical information useful to the practitioner in medicine and surgery.

The Clinical Pathology of Syphilis and Parasyphilis and its value for Diagnosis and Controlling Treatment. By HUGH WANSEY BAYLY, M.A., M.R.C.S., L.R.C.P.; Pathologist to the London Lock Hospital; Clinical Pathologist to the National Hospital for the Paralysed and Epileptic; Assistant in the Bacteriological Department of St. George's Hospital. London: Baillière, Tindall & Cox. 1912. Crown 8vo. Pp. xiv + 194. 3 Plates. 22 Figures.

THIS book is a neatly produced little volume in flexible covers. It is intended for the use of the general practitioner and medical student. Mr. Bayly has collected and reviewed the essential points in the clinical pathology of syphilis and parasyphilis, and presents them in such a manner as to emphasise their practical value for diagnosis and treatment.

In a lucid manner Mr. Bayly has succeeded in describing and explaining both the theories of the Wassermann test and its technique. As a practical worker and teacher he knows precisely the difficulties that need explaining in order to be comprehended by the unexperienced. In addition to the Wassermann test he describes the method of performing lumbar puncture and the cystological and chemical examination of the cerebro-spinal fluid. Anaphylaxis, Theobald Smith's phenomenon, Arthur's phenomenon, the Jarisch Hernheimer reaction, Noguchi's luetin (skin) reaction, and Justus' test, are all adequately explained. Salvarsan and mercury are compared in their curative effects, and their respective values are shown by the Wassermann test. Mr. Bayly uses 0.6 gm. of salvarsan in the treatment of men, and 0.5 gm. for women. This is followed in forty-eight hours by a second similar injection provided the temperature has been normal for twenty-four hours, and that no nephritis has developed.

This is followed by twelve mercurial intramuscular injections, the first four consisting of calomel cream, and the last eight of mercurial cream. Two more intravenous injections of salvarsan are now given. After this any further treatment will depend on the result of the Wassermann reaction. The Wassermann reaction should be examined every three months for two years and occasionally afterwards. This is certainly ideal, and we should like our patients to realise the importance of submitting themselves to its practice.

There are several spirochaetes which have to be distinguished from *Spirochaeta pallida*. These are the *Spirochaeta refringens* found in ulcerated lesions; *Spirochaeta buccalis* found in the mouth; *Spirochaeta dentium* in dental caries; *Spirochaeta pertenuis* of yaws, which is extremely difficult, if not impossible, to distinguish morphologically from the *Spirochaeta pallida*; and the *Spirochaeta balantidis*. The causal agent of dourine, the "mal de cœt" of horses, is believed to be a member of the same class of parasitic protozoa as that of *Spirochaeta pallida*. To digress, we may here remind our readers that biology is illustrated by several analogous similarities existing between different organisms, and also that tubercular germs probably include amongst others of one family Lustgarten's bacillus and that of leprosy.

We dwell upon these facts in order to once again repeat our conviction that the law of evolution pertains to microscopic organisms, as it does to the elements themselves, as well as to macroscopic objects. That microscopic germs constitute a connecting link between the invisible and the obvious. Leuriaux and Geit's experiments on the various states of the *Spirochaeta pallida* lend a little support to our theory. If the evolution of germs was once recognised it would facilitate the discovery of parasitic organisms, as diseases possessing marked similarities would be suggestive. Again, if the germ of a disease were known, and it resembled others in diseases amenable to treatment, we should then be in a position to apply the experience of the latter to the former. If these statements are the platitudes we consider them to be, then in

proportion as they are such they support the above theory of evolution as applied to microscopic organisms.

Mr. Bayly's book, together with the simplified outfits for performing the Wasserman reaction supplied by commercial firms, should, with a little practice, enable medical men to test a patient's serum in the study.

We are sorry that Mr. Bayly was not able to include a description of cases treated with neo-salvarsan. This drug possesses important advantages over salvarsan, and if it proves equally potent there can be no doubt but that it will prove to be the preparation of arsenic universally used.

Mr. Bayly's book will pass through many editions, and in these he might advantageously extend Chapter XIV. The tables contained in this chapter will be inconclusive until we learn the duration of the courses of mercurial treatment and the length of the "resting period" between them.

On page 181 we observe that the word "causes" has been misprinted for "cases."

Purchasers of Mr. Bayly's book must remember that it does not pretend to be a text-book on syphilis. It merely explains in a most efficient and clear manner how the various laboratorial tests, &c., may be performed by medical practitioners, and also the treatment of the disease by salvarsan and mercury, and the technique in administering these drugs.

S. S.

Manual of Surgery. By ALEXIS THOMSON, F.R.C.S. Ed., Professor of Surgery, University of Edinburgh, Surgeon, Edinburgh Royal Infirmary; and ALEXANDER MILES, F.R.C.S. Ed., Surgeon Edinburgh Royal Infirmary. Fourth Edition, revised and enlarged. In three volumes. Edinburgh, Glasgow, and London: Henry Frowde and Hodder & Stoughton. 1912. Cr. 8vo.

THE appearance of a fourth edition of Thomson and Miles's "Manual of Surgery" is not surprising in view of the general excellence of previous editions of this work. It may be said at once that the latest publication

marks a further improvement, and, moreover, the work has been rendered more complete by the addition of a third volume which deals with operative surgery. The improvement is shown not only in the text, but particularly in the number and quality of the illustrations. Due prominence is given to recent advances in pathology, diagnosis, and treatment, and the authors show a close acquaintance with modern surgical progress, especially that due to the American School.

Volume I. deals with general surgery, and injuries and diseases of the bones and joints. In the treatment of syphilis salvarsan receives notice, but the precise directions as to its administration are lacking. The authors rightly advise that the old-established mercurial treatment should also be employed. Their treatment of shock is based on Crile's researches, and they wisely discard many of the older therapeutic measures. Their description of arteriorrhaphy as a means of dealing with incised arterial wounds is incorrect: The authors direct that the sutures be "passed through the adventitia and media after the method of Lembert." This would produce partial occlusion, and almost certainly lead to thrombosis. Through-and-through sutures should be employed after the method of Carrel. With this exception, no fault can be found with the subject-matter of this volume.

In Volume II. a uniformly excellent account is given of regional surgery, and the chapter on deformities of the extremities has been transferred to it from Volume I. The work is brought thoroughly up-to-date in dealing with those subjects in which recent advances have been made, while older methods of treatment which have been abandoned are wisely omitted altogether, or dismissed in a few words.

Volume III. furnishes us with a very able and readable book on operative surgery. The descriptions are, with very few exceptions, clear and accurate, and free from any unnecessary detail. Many procedures are included which one would scarcely have expected to find in a volume of its modest size. This is particularly

noticeable in the chapters on the vascular system, lymphatics, bones, and nerves. Unfortunately, the day has not yet come when formal descriptions of ligations of arteries in various parts of their courses shall have largely disappeared from works on operative surgery. This we believe to be due chiefly to the frequency with which such operations are set at examinations, and one can only wish that in time they may here become as rare as they are in practice. The general principles governing amputations are very clearly and concisely expressed, and this we consider of far more importance than detailed descriptions of stereotyped operations, many of which unfortunately appear inseparably associated with the originator's name. Contrary to general opinion the authors consider mid-tarsal disarticulation a good procedure. The description of subastragaloid disarticulation is less scanty than its merit deserves, and it is regrettable that no illustration of such an excellent operation appears. The chapter on herniotomy is particularly good, and we are in thorough agreement with the views expressed; but the section dealing with strangulated inguinal hernia is much too brief, as this is one of the few surgical operations which any medical practitioner may find himself called upon to perform. We must also dissociate ourselves from their expressed views on the treatment of ventral hernia:—"The operation is a simple one." The description of perineal prostatectomy is not good. It gives one the impression that the authors have never seen it performed, correctly at any rate. The book does not contain formal lists of "Instruments required," nor tabulated "Indications for" in dealing with each operation. In these respects, whatever it may lose from the examinational viewpoint of the student, it more than gains in style and ease of assimilation.

The printing and illustrations of the three volumes are excellent. The latter are numerous, clear, and artistic, many of them being taken from actual photographs. The plan of outlining amputation incisions over a skiagraph of the bones in the limb is very good. We are, however, sorry to see the old-fashioned amputation knife, with

a blade of about fifteen inches, figured in connection with amputation through the thigh. In the illustration of the radical operation for cancer of the breast the intercosto-humeral and third intercostal nerves are represented as left behind, coursing across the axilla, but they are much better removed with the axillary tissues.

The following errors occur in the letter-press:—Vol. I., p. 454, where the titles of illustrations 114 and 115 have been transposed; Vol. I., p. 459, in the title of illustration 119, and Vol. III., p. 456, in paragraph (a) line 6.

The work as a whole is a splendid exposition of modern surgery. It is probably the best work of its size for the student and general practitioner which has yet been published. We recommend it most strongly.

The Practical Medicine Series. Comprising 10 Volumes on the Year's Progress in Medicine and Surgery. Under the general editorial charge of GUSTAVUS P. HEAD, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School; and CHARLES L. MIX, A.M., M.D., Professor of Physical Diagnosis in the North Western University Medical School. Volume II. General Surgery. Edited by JOHN B. MURPHY, A.M., M.D., LL.D.; Professor of Surgery in the North Western University; Attending Surgeon and Chief of Staff of Mercy Hospital, Wesleyan Hospital, St. Joseph's Hospital, and Columbus Hospital; Consulting Surgeon to Cook County Hospital and Alexian Brothers Hospital, Chicago, Illinois. Series 1912. Pp. 616. Chicago: The Year Book Publishers.

THIS handy little volume, under the able editorship of Professor Murphy, gives the reader an excellent summary of the year's advances in surgery and surgical technique, and it is only necessary to indicate its publication as it has now become so well known to the profession as not to require lengthy review. We may add that the book is an able criticism of the work done in connection with surgery during the year.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—WALTER G. SMITH, M.D., F.R.C.P.I.
General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

SECTION OF SURGERY.

President—R. D. PUREFOY, P.R.C.S.I.
Sectional Secretary—C. A. BALL, F.R.C.S.I.

Friday, October 25, 1912.

THE PRESIDENT in the Chair.

THE PRESIDENT said his first duty was to thank the Section and the Council for electing him President. He then briefly reviewed the work of the last Session, and said that a great many very important papers were read, amongst them being a most important communication narrating a fatal result occurring in a patient treated with salvarsan. He thought the Section should feel grateful to those amongst them for bringing forward such cases, as there is much to be learned from unsuccessful cases. Another communication dealing with a congenital dislocation of the hip was also of the greatest interest, and it was enhanced by being illustrated by most excellent radiograms. A complication to which attention was directed during the Session was the complication in operations for gastro-enterostomy—*i.e.*, gastro-jejunal ulcer. This was a subject which he considered of great importance, as very few cases of the kind have been recorded. Several cases of advanced tubercular

disease in which dioradin was tried with an encouraging degree of success were also communicated, and various other subjects of extreme interest were discussed. Continuing, he said that physicians and surgeons of this School have entered into a splendid heritage of traditions and reputations—an inheritance which was not built up without hard work, devotion to their hospitals, and students who studied in them. He thought it would be admitted that such a heritage would suffer, and could not be handed down to their successors if they did not pursue the same means. The attendance which he saw at the meeting was very encouraging, and was a hopeful augury for the success of the present Session.

Case of Cerebellar Tumour treated by Decompression.

MR. A. A. McCONNELL showed a case of cerebellar tumour for which Cushing's sub-tentorial decompression operation had been performed. [It is printed in full at page 413].

THE PRESIDENT asked if the flow of cerebro-spinal fluid had ceased.

MR. E. H. TAYLOR said that there were two standpoints in these cases:—(1) the diagnostic, (2) the operative. The diagnosis in the present case was very fully gone into. With regard to the operative treatment he regretted to say that his experience had not been so satisfactory as Mr. McConnell's. He would like to emphasise the point that access is not so easy when the patient is lying on the side as it is when in the face down position. He agreed that it was well to expose both hemispheres of the cerebellum, and he thought the bilateral exposure was to be preferred. The case showed the great value of decompression, and in many cases he believed it was better to be satisfied with decompression than at the same operation to proceed to take away the tumour. Some time ago he had operated on a patient for a tumour in the cerebrum. The patient lived for three and a half years afterwards, the symptoms improved, and he got back a certain amount of vision.

DR. FINNY, referring to the signs and symptoms in cases of intracranial pressure, inquired if the relief of the pressure of the cerebro-spinal fluid would relieve the pressure in the brain. If the spinal fluid could run freely he thought one would have a better impression of the growth of the tumour.

DR. DENHAM suggested that there was still a great deal of bulging, and he would like to know whether there is at present a greatly increased intracranial tension, and whether this is attributed entirely to the tumour or to the increase of the cerebro-spinal fluid. He inquired if further operation was intended, and if so what was proposed to be done. He also asked if urotropine was indicated in these cases.

MR. PEARSON said it was to be regretted that cases of the kind were not got in earlier stages by the surgeon. When optic atrophy sets in the patient's sight cannot be restored, and when there was surgical interference it should be carried out before the sight was affected for any time. He considered that even if the growth was believed to be a gumma it was no reason why the case should not be submitted to surgical treatment. He inquired if any observations had been taken of the blood-pressure. He thought there could be no question that the bilateral operation was the most suitable. It was of the utmost importance in intracranial operations to have plenty of room, so as to be able to dislocate the growth. As to whether the whole operation should be undertaken, it was, he thought, better to wait for a second stage in those cerebellar cases; but this could best be judged by the blood-pressure. The patient's speech at present seemed somewhat slurring and slow, which he thought should be regarded as a symptom that there was some pressure on the bulb.

MR. McCONNELL, replying to the remarks, said with regard to the President's inquiry the cerebro-spinal fluid discharged very copiously from the eighth to the tenth day, and then the sinus closed. During operation the patient was kept in the prone position, and there was absolutely free access to the seat of operation. He agreed that the two-stage operation was the best. He doubted if the patient would consent to a second operation, and even if she did he was not at present sure what he would do. Although before operation the patient had optic neuritis far advanced on the left side and considerably on the right, yet her sight improved immediately after operation, but it had since depreciated. He agreed that decompression should be done as soon as the sight showed signs of failing. He was never able to determine definite paresis on the patient's right side. He was unable to record the blood-pressure

during the operation owing to the failure of the apparatus, but it was represented as 100 m.m. of mercury at the start of the operation.

Hedonal as an Anæsthetic.

MR. H. DE L. CRAWFORD reported and analysed thirty cases of hedonal anæsthesia. In all full surgical anæsthesia had been obtained, and no death had occurred that was in any way attributable to the drug or the method by which it was administered. The following complications had developed after operation:—One case of slight broncho-pneumonia and one of acute œdema. The latter condition occurred in a boy of seventeen years, who had been operated on for inguinal hernia. The dose injected was 1,250 cc.s, and the period of deep sleep lasted eighteen hours. The symptoms—fast pulse and fast respiration—subsided on propping the patient up and clearing the air-passages. The cases included eight operations for cancer, two for brain compression, and eight laparotomies. The greatest advantages noticed with the anæsthetic were the slight amount of blood lost in head cases and the very marked abdominal relaxation. The anæsthetic was contra-indicated in the young and vigorous, who were not going to be subjected to severe loss of blood and who were not collapsed. In the aged and cachectic, on the other hand, the anæsthetic had been found most valuable.

THE PRESIDENT thanked Mr. Crawford for his paper, which very fairly set forth the advantages and disadvantages to be derived from the use of hedonal as an anæsthetic. All who were concerned with abdominal operations well knew the advantage of having the abdominal muscles in a relaxed state.

MR. W. I. DE C. WHEELER considered the paper of the greatest interest, as he thought the question of anæsthesia was not in a satisfactory state at present. As to hedonal, he considered that its administration could not be praised or condemned until we had more experience of it. In his opinion there was sometimes a difficulty in giving the anæsthetic, as patients very often object more to the giving of an intravenous injection than to the operation. How chloroform had been given so long in cases where it is contra-indicated he found hard to understand. He men-

tioned that he had been using omnopon in simple operations, and so far had found it satisfactory. When given before the administration of ether, patients when anæsthetised would remain so for hours. There was a complete absence in every case of anything in the nature of cyanosis. The procedure is very simple, and the contra-indications are practically nil.

DR. KIRKPATRICK had not seen the method tried, but it seemed to him, from the theoretical point of view, that it was attended with great advantages and some considerable disadvantages. It was, he said, admitted that the present method of anæsthetising patients are not altogether satisfactory. Whether it was the fault of the methods or the patients, it was exceedingly hard to get satisfactory relaxation of the muscles, especially in pelvic operations, and the surgeon may be very considerably hampered in his work on this account; consequently, any method that would improve this state of things would be of very great value. He had seen so many methods of using different drugs as anæsthetics introduced that it made him doubtful, as over and over again, notwithstanding new methods put forward as panaceas, return had to be made to ether. He, therefore, thought that no one had yet sufficient experience to be able to pronounce definitely on hedonal. Regarding the point that the anæsthetist could administer hedonal in a way that he could be out of the way of the operator, it should not be lost sight of that, no matter how the anæsthetic is given, the anæsthetist must have access to the patient's head.

DR. SMITH said that so far all forms of anæsthetics administered by inhalation, excluding morphine, belonged to the marsh gas series. Local anæsthetics belonged to the aromatic group. He demonstrated by chemical formulas how the various forms were built up, taking marsh gas as a base. He was not in a position to speak of hedonal in practice, but was inclined to think that the older methods were more satisfactory.

MR. CRAWFORD, in replying to the remarks, said his experience was that patients would sooner have the small operation necessary to administer hedonal than to have the mask placed over their face. He considered that it was much more under control than omnopon. He agreed with Dr. Kirkpatrick that the outlook for a new method is not

hopeful, but this method has now been taken up in England after having been used for some time on the Continent, which speaks well for it. With regard to the danger of cyanosis if the anæsthetist is at the patient's feet instead of at the head, he found it necessary to stay at the patient's head, and to signal when the tap was to be turned off. He considered the anæsthetic as safe as any other in practice.

THE CARMICHAEL PRIZE ESSAY, 1912.

WE are informed that the Carmichael Prize for the best essay on the State of the Medical Profession in Great Britain and Ireland has been awarded by the Council of the Royal College of Surgeons in Ireland to Mr. H. Nelson Hardy, F.R.C.S. Edin., of London, a son of the late Philip Dixon Hardy, of this city, at one time editor of the *Dublin Penny Journal*. The essay, we understand, deals very fully with the burning question of the Insurance Act in its relation to the doctors, points out some of the grave defects in the Irish dispensary system, and also in the workhouse infirmaries in Ireland, and advocates what is known as the one portal system of examination for medical diplomas in each of the three kingdoms. It will be published shortly under the supervision of the Royal College of Surgeons.—*Dublin Daily Express*, Nov. 15. 1912.

LITERARY NOTE.

MESSRS. BAILLIÈRE, TINDALL & COX announce a translation from the German of Professor Schmieden's well known "Course of Operative Surgery." It is translated and edited by Arthur Turnbull, Demonstrator of Anatomy at the University of Glasgow. The author has refrained from crowding his volume with details that can be mastered only in the operating theatre; he has disregarded alternative methods, and, in summing up the essentials, has produced a work which should appeal to British practitioners as a scientific survey of modern operative surgery. It contains many beautiful illustrations, both coloured and plain.

SANITARY AND METEOROLOGICAL NOTES.

VITAL STATISTICS

For four weeks ending Saturday, November 2, 1912.

IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended November 2, 1912, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 18.3 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,154,150. The deaths registered in each of the four weeks ended Saturday, November 2, and during the whole of that period in the several districts, alphabetically arranged, correspond to the following annual rates per 1,000. In some cases, owing to the deaths not having been registered within the week in which they occurred, the rates do not fairly represent the weekly mortality:—

Towns, &c.	Week ending				Average Rate for 4 weeks		Towns, &c.	Week ending				Average Rate for 4 weeks
	Oct. 12	Oct. 19	Oct. 26	Nov. 2				Oct. 12	Oct. 19	Oct. 26	Nov. 2	
22 Town Districts	17.6	16.5	17.8	18.3	17.5		Lisburn	4.2	8.4	12.6	4.2	7.4
Armagh	7.1	21.3	—	28.4	14.2		Londonderry	12.8	6.4	14.0	20.4	13.4
Ballymena	9.2	13.7	22.9	9.2	13.8		Lurgan	29.1	12.5	8.3	37.4	21.8
Belfast	18.0	14.2	16.8	16.8	16.5		Newry	4.4	26.2	17.4	17.4	16.4
Clonmel	25.5	15.3	35.8	5.1	20.4		Newtown- ards	16.3	10.9	10.9	10.9	12.3
Cork	16.3	16.3	23.1	17.0	18.2		Portadown	4.4	17.8	—	13.3	8.9
Drogheda	16.7	4.2	—	29.2	12.5		Queenstown	—	19.1	6.4	6.4	8.0
Dublin (Reg. Area)	19.4	19.8	18.3	18.5	19.0		Sligo	23.4	9.3	—	14.0	11.7
Dundalk	7.9	—	23.8	11.9	10.9		Tralee	5.1	5.1	10.1	10.1	7.6
Galway	7.9	11.8	3.9	27.5	12.8		Waterford	20.9	17.1	26.6	15.2	19.9
Kilkenny	9.9	9.9	14.9	19.8	13.6		Wexford	4.5	18.1	22.6	4.5	12.4
Limerick	29.8	35.2	35.2	47.4	36.9							

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 22 districts during the week ended Saturday, November 2, 1912, were equal to an annual rate of 2.9 per 1,000—the rates varying from 0.0 in fourteen of the districts to 29.8 in Limerick, 22 of the 35 deaths from all causes for that district being from measles. Among the 126 deaths from all causes registered in Belfast are 12 from measles, 2 from scarlet fever, one from diphtheria, and 5 from diarrhoea and *enteritis* of children under 2 years. Of the 25 deaths from all causes registered in Cork, 3 were from diarrhoea and *enteritis* of children under 2 years. Included in the 16 deaths from all causes registered in Londonderry is one from enteric fever. One death from diphtheria is included in the 3 deaths recorded for Dundalk, and one of the 2 deaths for Ballymena is from whooping-cough. One of the 2 deaths registered in Tralee is from scarlet fever.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 400,865, that of the City being 306,573, Rathmines 38,495, Pembroke 29,731, Blackrock 9,125, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended November 2 amounted to 211—98 boys and 113 girls—and the deaths to 147—78 males and 69 females.

DEATHS.

The registered deaths, omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 18.5 per 1,000 of the population. During the forty-four weeks ending with Saturday, November 2, the death-rate averaged 20.6, and was 1.3 below the mean rate for the corresponding portions of the 10 years 1902-1911.

The total deaths registered, numbering 147, represent an annual rate of 19.1 per 1,000. The annual rate for the past forty-four weeks was 21.9 per 1,000, and the average annual

rate for the corresponding period of the past ten years was 23.0 per 1,000 of the mean population for all deaths registered.

The total deaths (147) from all causes included 2 from each of enteric fever and measles, 2 deaths from diphtheria, 3 from scarlet fever, one death from whooping-cough, and 5 deaths from diarrhoea and *enteritis* of children under 2 years of age.

In each of the 3 preceding weeks, deaths from enteric fever were one, 2, and 2; deaths from measles were one, 2, and one; deaths from scarlet fever were 0, 0, and 2; deaths from whooping-cough were 0, one, and one; deaths from diphtheria were 3, 3, and 2; and deaths from diarrhoea and *enteritis* of children were 5, 7, and 4 respectively.

There were 27 deaths from tuberculosis. This number includes 21 deaths from pulmonary tuberculosis, 3 from abdominal tuberculosis, 2 from tuberculosis of the vertebral column, and one death from tuberculosis of the hip-joint. In each of the three preceding weeks, deaths from tuberculosis numbered 24, 34, and 26.

Of 9 deaths from pneumonia, broncho-pneumonia caused 4 deaths, lobar pneumonia one death, and *pneumonia* (type not distinguished) caused 4 deaths.

Organic diseases of the heart caused the deaths of 5 persons, and 23 deaths from bronchitis were recorded.

Thirteen deaths were caused by cancer.

There were 2 deaths of infants under one year of age from *convulsions*.

Prematurity caused the deaths of 9 infants, there were 2 deaths from congenital malformations, and congenital debility caused one death.

Of 4 violent deaths, 3 were accidental (namely, 2 by vehicles and horses, and one in building operations) and one was suicidal.

In 3 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases comprise the deaths of 3 children under 5 years of age (including 2 infants under one year old).

Forty-six of the persons whose deaths were registered during the week ended November 2 were under 5 years of age (30 being infants under one year, of whom 12 were under one month old), and 32 were aged 65 years and upwards, including 24 persons aged 70 and upwards. Among the latter were

13 aged 75 years and upwards, of whom one (a female) was stated to have been aged 90 years.

The Registrar-General points out that the names of the cause of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended November 2, 1912, and during each of the preceding three weeks. An asterisk (*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia origin uncertain, <i>a</i>	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis (<i>Phthisis</i>)	Acute Poly-myelitis	Total
City of Dublin	Oct. 12	*	*	21	-	-	7	-	-	4	2	-	*	-	5	*	39
	Oct. 19	*	*	21	-	-	10	-	-	9	6	-	*	-	6	*	52
	Oct. 26	*	*	15	-	-	12	-	-	5	6	-	*	-	13	*	41
	Nov. 2	*	*	19	-	-	12	-	3	6	9	-	*	-	19	*	59
Rathmines and Rathgar Urban District	Oct. 12	*	*	*	-	-	-	-	-	-	-	-	*	*	*	*	-
	Oct. 19	*	*	2	-	-	1	-	-	-	2	-	*	*	*	*	5
	Oct. 26	*	*	-	-	-	3	-	-	-	-	-	*	*	*	*	5
	Nov. 2	*	*	5	-	-	6	-	-	-	-	-	*	*	*	*	11
Pembroke Urban District	Oct. 12	-	-	2	-	-	1	-	-	-	1	-	-	-	-	*	4
	Oct. 19	-	-	2	-	-	-	-	-	-	-	-	-	-	-	*	4
	Oct. 26	-	-	4	-	-	3	-	-	-	-	-	-	-	-	*	7
	Nov. 2	-	-	4	-	-	-	-	-	-	-	-	1	-	-	*	5
Blackrock Urban District	Oct. 12	*	*	1	-	-	1	-	-	-	-	-	*	-	*	*	2
	Oct. 19	*	*	1	-	-	-	-	-	-	-	-	*	-	*	*	4
	Oct. 26	*	*	-	-	-	1	-	-	-	-	-	*	-	*	*	1
	Nov. 2	*	*	-	-	-	2	-	-	-	-	-	*	-	*	*	2
Kingstown Urban District	Oct. 12	*	*	-	-	-	1	-	-	-	-	-	*	-	-	*	4
	Oct. 19	*	*	3	-	-	3	-	-	-	-	-	*	-	-	*	5
	Oct. 26	*	*	1	-	-	-	-	-	-	-	-	*	-	-	*	1
	Nov. 2	*	*	1	-	-	2	-	-	-	1	-	*	-	1	*	5
City of Belfast	Oct. 12	*	*	30	-	-	10	-	-	-	5	-	*	*	4	*	49
	Oct. 19	*	*	37	-	-	5	-	-	-	8	-	*	*	12	*	67
	Oct. 26	*	*	40	-	-	4	-	-	1	4	-	*	*	5	*	71
	Nov. 2	*	*	26	-	-	3	1	1	-	3	-	*	*	11	*	46

a Continued Fever.

Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended November 2, 1912, 3 cases of measles were discharged from hospital, there were 2 deaths, and 3 cases remained under treatment at the close of the week. In the three preceding weeks such cases were 11, 8, and 8 respectively.

Twenty-one cases of scarlet fever were admitted to hospital, 16 were discharged, there were 2 deaths, and 132 cases remained under treatment at the close of the week. This number is exclusive of 23 convalescent patients who remained under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital, Dublin. At the close of the 3 preceding weeks the cases in hospital were 127, 126, and 129 respectively.

One case of typhus remained under treatment in hospital at the close of the week.

Twenty-six cases of diphtheria were admitted to hospital, 12 were discharged, and there were 3 deaths. The cases in hospital, which at the close of the 3 preceding weeks numbered 43, 44, and 62, respectively, were 73 at the close of the week.

Seven cases of enteric fever were admitted to hospital, 14 were discharged, and 53 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks being 60, 59, and 60.

In addition to the above-named diseases, 9 cases of pneumonia were admitted to hospital, 7 were discharged, and 25 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, November 2, in 95 large English towns (including London, in which the

rate was 14.1) was equal to an average annual death-rate of 14.0 per 1,000 persons living. The average rate for 18 principal towns of Scotland was 16.1 per 1,000, the rate for Glasgow being 17.5, and that for Edinburgh 17.4.

INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh with a copy of his Return of Infectious Diseases notified during the week ended November 2. From this Report it appears that of a total of 58 cases notified, 24 were of phthisis, 21 of scarlet fever, 8 of diphtheria, and 5 of erysipelas. Among the 354 cases of infectious disease in hospital at the close of the week were 63 of diphtheria, 79 of phthisis, 166 of scarlet fever, 11 of whooping-cough, 11 of erysipelas, 6 of measles, 4 of enteric fever, 10 of chicken-pox, and one of puerperal fever.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of October, 1912.

Mean Height of Barometer, - - -	29.854 inches.
Maximal Height of Barometer (4th, at 9 p.m.),	30.636 ..
Minimal Height of Barometer (30th, at 9 a.m.),	29.037 ..
Mean Dry-bulb Temperature, - - -	47.9°
Mean Wet-bulb Temperature, - - -	45.8°.
Mean Dew-point Temperature, - - -	43.4°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.282 inch.
Mean Humidity, - - - - -	85.1 per cent.
Highest Temperature in Shade (on 13th),	62.6°.
Lowest Temperature in Shade (on 4th),	32.1°.
Lowest Temperature on Grass (Radiation) (4th),	28.2°.
Mean Amount of Cloud, - - - -	47.0 per cent.
Rainfall (on 13 days), - - - -	1.665 inches.
Greatest Daily Rainfall (on 26th)	.420 inch.
General Directions of Wind, - - -	W., S.W.

Remarks.

Fine, dry, generally anticyclonic weather prevailed until St. Luke's Day, the 18th, with brief interruptions on the 11th, 13th and 16th. After the 19th to the 30th inclusive

the barometer stood low over the British Islands, and depression followed depression at short intervals on their easterly or north-easterly paths across North-western Europe. Up to the 18th the rainfall in Dublin was only .233 inch on 3 days; from the 18th to the 30th, inclusive, rain fell on 10 out of 13 days to the amount of 1.432 inches. These figures will give some idea of the different types of weather experienced in the earlier and later periods of the month. It will be noted that while the mean maximal temperature was slightly above average the mean minimum was below it. Taken in conjunction with a low percentage of cloud for the month (46.5 at 9 a.m. and 47.4 at 9 p.m.), this means that solar radiation had free play by day and terrestrial radiation by night.

In Dublin the mean maximal temperature was 54.9° , compared with the average (54.7°); but the mean minimal temperature was 42.8° , compared with the average, 44.3° . The arithmetical mean temperature (48.9°) was below the average (49.5°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 47.9° . In the forty-eight years ending with 1912, October was coldest in 1892 (M. T. = 44.8°) and in 1896 (M. T. = 45.0°). It was warmest in 1908 (M. T. = 55.4°) and in 1876 (M. T. = 53.1°). In 1911, the M. T. was 50.8° .

The mean height of the barometer was 29.854 inches, or 0.014 inch above the corrected average value for October—namely, 29.840 inches. The mercury rose to 30.636 inches at 9 p.m. of the 4th, and fell to 29.037 inches at 9 a.m. of the 30th. The observed range of atmospheric pressure was, therefore, 1.599 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 47.9° , or 5.0° below the value for September, 1912. The arithmetical mean of the maximal and minimal readings was 48.9° , compared with a thirty-five years' (1871–1905) average of 49.5° . Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{Max.} - \text{Min.}) \times .485$, the mean temperature was 48.7° , or 0.6° below the average mean temperature for October, calculated in the same way, in thirty-five years, 1871–1905, inclusive (49.3°). On the 13th the thermometer in the screen rose to 62.6° —wind, S.W.; on the 4th the temperature fell to 32.1° —wind, W.N.W. The minimum on the grass was 28.2° , also on the 4th.

The rainfall was 1.665 inches, distributed over 13 days. The rainfall was considerably below, while the rain-days were also materially below, the average. The average rainfall for October in the thirty-five years, 1871-1905, inclusive, was 2.870 inches, and the average number of rainy days was 18. In 1880 the rainfall in October was very large—7.358 inches on 15 days. In 1875, also, 7.049 inches fell on 26 days. On the other hand, in 1904 only .454 inch fell on 11 days, in 1890 only .639 inch fell on but 11 days, in 1884 only .834 inch on but 14 days, and in 1868 only .856 inch on 15 days. In 1911, 3.787 inches were recorded on 20 days.

High winds (force 4 to 7) were noted on 12 days, and attained the force of a gale on 2 days—the 21st and 27th. The atmosphere was foggy in Dublin on the 10th, 12th, 25th, and 26th. There was a lunar corona on the 30th. Lightning was seen on the 20th.

The rainfall in Dublin during the ten months ending October 31st, 1912, amounted to 24.323 inches on 171 days, compared with 16.386 inches on 140 days in 1911, 27.330 inches on 177 days in 1910, 21.106 inches on 158 days in 1909, 12.366 inches on 123 days during the same period in 1887 (the dry year), and a thirty-five years' (1871-1905) average of 23.030 inches on 164 days.

Mr. C. D. Clark reports that at the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.861 inches, the range of atmospheric pressure being from 30.64 inches at 9 a.m. of the 4th to 29.07 inches at 9 a.m. of the 30th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 49.4°. The arithmetical mean of the daily maximal and minimal temperatures was 49.1°. The screened thermometers rose to 63° on the 13th and 18th, and fell to 31° on the 4th. On the 26th the grass minimum was 25°. Rain fell on 11 days to the amount of 1.59 inches, the greatest fall in 24 hours being .40 inch on the 26th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 104.4 hours, of which 8.3 hours occurred on the 6th. The mean daily sunshine was 3.4 hours. The mean temperature of the soil at 9 a.m. at a depth of one foot was 49.5°; at a depth of 4 feet it was 51.8°.

Captain Edward Taylor, D.L., returns the rainfall at Ardgillan, Balbriggan, Co. Dublin (height above sea level, 210 feet), as 1.88 inches on 16 days, the largest measurement in one day being .38 inch on the 26th. The rainfall was .78 inch below the average and the rain-days were one below the average. From January 1 to October 31, the rainfall at Ardgillan has been 27.28 inches on 162 days, or 4.07 inches and 8 days above the respective averages. The highest shade temperature in October was 61.5° on the 13th, the lowest was 33.5° on the 21st and 25th.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 1.785 inches on 13 days, the greatest fall in 24 hours being .415 inch on the 26th. The mean shade temperature was 47.5° , the extremes being—highest, 60.5° on the 18th; lowest, 27.0° on the 31st.

At the Royal Botanic Gardens, Glasnevin, rain fell on 14 days to the amount of 1.80 inches, the greatest daily fall being .40 inch on the 26th.

At the Ordnance Survey Office, Phoenix Park, Dublin, the October rainfall was 1.600 inches on 13 days. The heaviest fall in 24 hours was .445 inch on the 26th. The total amount of bright sunshine was 109.3 hours, the maximal duration on any one day being 9.0 hours on the 4th.

Dr. Christopher Joynt, F.R.C.P.I., registered 1.520 inches of rain on 14 days at 21 Leeson Park, Dublin, the largest measurement in 24 hours being .400 inch on the 26th. The ten months' rainfall in 1912 at this station amounts to 23.944 inches on 165 days.

The rainfall recorded at Cheeverstown Convalescent Home, Clondalkin, Co. Dublin, by Miss C. Violet Kirkpatrick, was 1.93 inches on 16 days. The heaviest rainfall in 24 hours was .32 inch on the 26th.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson measured 1.85 inches of rain on 18 days, the maximum in 24 hours being .51 inch on the 26th. The mean temperature of the month was 48.5° , the thermometer rising to 63° on the 13th and falling to 32° on the 25th.

Mrs. Olive F. Symes returns a rainfall of 1.54 inches on 13 days at Druid Lodge, Killiney, Co. Dublin. The heaviest fall in 24 hours was .43 inch on the 28th. The average

October rainfall at Cloneevin, Killiney, in the 24 years, 1885-1908, was 2.985 inches on 17.2 days.

The rainfall recorded at the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Co. Dublin, in the month of October, by Dr. A. J. Blake, the Resident Medical Superintendent, amounted to 2.06 inches on 15 days. The heaviest fall in 24 hours was .39 inch on the 21st.

At Coolagad, Greystones, Co. Wicklow, Dr. John H. Armstrong, M.B., measured 2.64 inches of rain on 17 days, the maximal falls in 24 hours being .67 inch on the 28th and .66 inch on the 26th. Thunder occurred at 10 5 a.m. of the 28th and 6 30 a.m. of the 29th. From January 1 to October 31, 1912, the rainfall at Coolagad amounted to 40.78 inches on 178 days.

Mrs. Sydney O'Sullivan recorded 1.98 inches of rain on 17 days at Auburn, Greystones, Co. Wicklow, the greatest rainfall in 24 hours being .53 inch on the 26th. A thunderstorm occurred at 10 a.m. of the 28th, and thunder and lightning at 6 30 a.m. of the 29th.

Dr. Charles D. Hanan reports that 2.22 inches of rain fell on 17 days at the Royal National Hospital for Consumption for Ireland, near Newcastle, Co. Wicklow. The maximum in 24 hours was .77 inch on the 26th. The mean temperature of the month at the Hospital was 47.8° , the extreme readings of the shade thermometer being—highest, 60.0° on the 18th; lowest, 34.0° on the 25th. The mean maximal temperature was 53.7° , the mean minimum was 41.9° .

The Rev. Arthur Wilson, M.A., recorded a rainfall of 6.61 inches on 22 days at the Rectory, Dunmanway, Co. Cork. The heaviest fall in 24 hours was .88 inch on the 29th, attended with thunder and lightning. There were many fine, bright warm days during the month, which was mild on the whole, although the nights of the 2nd, 3rd, 23rd, 24th and 31st were frosty. The total rainfall for the completed 10 months of 1912 is 49.68 inches, compared with an average for 7 years of 43.29 inches. Thunder and lightning occurred on the 28th and the 29th. The average rainfall of October for the past 7 years is 5.68 inches.

PERISCOPE.

EDITORIAL NOTE.

OWING to pressure on our space, the publication of the second and final instalment of Dr. Foy's translation of Professor L. Concetti's article on "Broncho-pneumonia and its Complications in Infancy" is unavoidably postponed to the January number of the Journal.

GASTRIC ULCER.

PROFESSOR M. LÆPER, of Paris, contributes to *Le Progrès Médical*, December 16, 1911, an article entitled "Le traitement des trois grands symptômes de l'ulcère de l'estomac." The three main symptoms of gastric ulcer are hæmorrhage, vomiting, and pain. The treatment of hæmorrhage is the most important part of the treatment of gastric ulcer. The essentials of this treatment are:—Complete rest in bed, ice by the mouth or in local applications, hot rectal injections and drugs. In subacute hæmorrhages perchloride of iron or bismuth salts may be useful; but adrenalin, chloride of calcium and gelatin are certainly better, and may be given by the mouth with excellent results in all cases of hæmorrhage. Ergotin, ergotinin, or adrenalin hydrochloride may be given in hypodermic injections; their action is rapid but temporary, and often there is a recurrence of hæmorrhage soon after their use. Horse serum or normal saline solution is also useful, the former in hæmorrhages of long duration, where there are distinct modifications of the blood, the latter in profuse or prolonged hæmorrhages to make up for the loss of fluid of the system. Gelatin solution may also be tried hypodermically, but it seems to be less used nowadays than some years ago. The food must be as bland as possible, and Professor Læper is distinctly in favour of the old-fashioned milk diet for at least four weeks; however, when the hæmorrhage cannot be checked rectal feeding must be tried. Vomiting should be checked by external means and cold applications (ice, ether, methyl chloride, &c.), since the analgesic mixtures taken by the mouth are likely to cause vomiting. Alkaline powders are very often of great value, and are generally well borne. For hypodermic injections a mixture of atropine and morphine gives excellent results in most cases. Nitrate of silver may also be of use, but it is likely to give an extra stimulus to the mucous membrane of the stomach, which is already so irritable.

In Memoriam.

ARTHUR HENRY BENSON, M.A., M.B. UNIV. DUBL.,
F.R.C.S.I.

WITH keen regret and heartfelt sorrow we record the death, after a long illness, on Wednesday, November 6, 1912, of this able and distinguished member of the Medical Profession. MR. BENSON died in the sixtieth year of his age, at Roebuck Grove, Donnybrook, Co. Dublin, the residence of his brother, Sir Ralph Benson. Very many years ago he had suffered from acute rheumatism, and in subsequent attacks of the same malady endocarditis occurred leading to mitral valve disease. In the summer of 1911 failing compensation declared itself, and from that time MR. BENSON was an invalid. It was not, however, until within the last few days of his life that his state became critical, despite all that skilled and devoted medical care could do for him.

Born in the late autumn of 1852, ARTHUR HENRY BENSON was the fifth son of the late Dr. Charles Benson, of Fitzwilliam Square, for many years Professor of Medicine in the School of the Royal College of Surgeons in Ireland.

Entering Trinity College, Dublin, at an early age, from Rathmines School, ARTHUR BENSON passed through his undergraduate course with credit, and took his degree in Arts in December, 1875. In the previous year he had obtained the diplomas of the Royal College of Surgeons in Ireland, and in the following year he graduated in Medicine in the University of Dublin. Although he was now fully equipped for the practice of his profession, he did not rest satisfied, but proceeded to London and Vienna to pursue post-graduate studies in those great centres of medical teaching and learning. In 1881 he became a fellow of the Irish Royal College of Surgeons.

In Memoriam.

and in 1886 he took the degree of Master of Arts in the University of Dublin.

When DR. ARTHUR BENSON became fully qualified, and had the world before him, he felt—as many young men of strong independence feel—impatient of the monotony and restraints of social and professional life. He, thereupon, decided to see for himself what attractions the wider world abroad might offer, and to choose a home in some, perchance, more favoured land. Just then he was ordered for his health to take a long sea voyage. He accordingly took medical charge of an ocean liner, and as he left these shores he said: “I shall *never come back to Ireland except as a visitor*.” To his heart’s content he travelled across many oceans to many lands, far and near, and saw for himself that sunshine and darkness, glamour and struggle were everywhere. After two years he returned and said: “I have seen enough—I shall *never leave Ireland except as a visitor*”—and he never did.

On his return to his native land, ARTHUR BENSON settled down to practise as a specialist in his native city, Dublin, choosing as his specialty diseases of the ear and eye. His subsequent career was one of uninterrupted and unqualified success. In 1880 he was appointed Ophthalmic and Aural Surgeon to St. Mark’s Ophthalmic Hospital, Lincoln Place, Dublin. He filled a like position on the Staff of the Royal City of Dublin Hospital, and for 14 of the latter years of his life was one of its Honorary Secretaries. He became Surgeon to the Royal Victoria Eye and Ear Hospital on its establishment in 1904, and was Surgeon also to the Throat and Ear Hospital, Dublin. He acted from time to time as University Examiner in Ophthalmic Surgery in the University of Dublin and as Examiner in Ophthalmic and Aural Surgery in connection with the Conjoint Scheme of the Irish Royal Colleges of Physicians and Surgeons. He served for some years on the Council of the Royal College of Surgeons in Ireland and was a Fellow of the Royal Academy of Medicine in Ireland.

Nor was his reputation confined to Dublin and to

In Memoriam.

Ireland, for he was an original member of the Ophthalmological Society of the United Kingdom, and was elected a member of the Oxford Ophthalmological Congress, and of the Heidelberg Ophthalmological Society. To these and to other medical bodies ARTHUR BENSON contributed many important communications, among which the following may be mentioned, namely:—"Diphtherial Paralysis of Ocular Muscles" (*Trans. Ophth. Soc.*, Vol. II.), "The More Modern Operations for Trichiasis" (*Royal London Ophth. Hosp. Reports*, Vol. XI.), "Ivory Exostosis of Auditory Meatus removed by Dental Engine" (*Trans. Roy. Academy of Med. in Irel.*, Vols. V. and VI.), "Acromegaly with Ocular Complications" (*ib.*, 1895), "Treatment of Stenosis of Nasal Duct" (*Brit. Med. Journ.*, 1887), "Temporary Visual Obscurations from Retinal Vascular Spasm" (*Trans. International Ophth. Congress*, 1894).

To our own pages also he was a frequent and valued contributor, and his Special Reports on Ophthalmic and Aural Surgery were models of what such reports should be, while his reviews were notable for their fairness and candour.

Turning to ARTHUR BENSON's private life and character, we may quote him—without fear of contradiction—as being a remarkable exception to the oft-repeated statement that no man of independent character and great energy can go through life without making enemies. It is our belief that ARTHUR BENSON had not a single enemy—we know that he had hosts of friends. On March 15, 1898, he married Ethel, youngest daughter of the late Richard Rawson, Esq., of Baltinglass, Co. Wicklow. The esteem in which he was held by his intimate friends and the affection they had for him was evidenced by a festal gathering on the eve of his marriage, at which it was the writer's privilege and good fortune to be present.

A hard worker, ARTHUR BENSON enjoyed the holidays which he took from year to year. He was always very fond of travelling, and visited a great many parts of the world, including India and Canada, in company with his devoted wife and helpmate. He was an enthusiastic golfer, and won prizes at the game; he was an equally

In Memoriam.

enthusiastic yachtsman. Photography also was a favourite pastime with him, and from each of his trips abroad he brought home beautiful photographs, many of which he exhibited from time to time at the meetings of one of the most interesting social and scientific reunions in Dublin—the “Ramblers’ Club.”

For many years MR. BENSON acted as Secretary of the Royal Medical Benevolent Fund Society of Ireland. He spared no pains to enlist the interest and sympathy of the Profession throughout the country in the Fund. It was his aim on all occasions to place in the possession of the Executive Committee the fullest information relative to the many sad and often pathetic applications for relief made by distressed members of the Profession, or their widows and fatherless children.

The energy and success with which he worked as Secretary—jointly with Sir John Nutting, Bart., D.L.—in connection with the great Kosmos Bazaar held some years ago in aid of the Royal City of Dublin Hospital were simply phenomenal. And one of the happiest days of his life was that on which he was privileged, after defraying all the necessarily heavy expenses of that historic bazaar, to hand to the Board of his Hospital a cheque for over twelve thousand pounds sterling. In grateful recognition of such conspicuous service, the Hospital Board named one of the wards—that in which he worked as ophthalmic surgeon—“The Arthur H. Benson Ward.”

In private and in professional life ARTHUR BENSON was singularly broad-minded, tolerant, charitable in his views of men and motives, sweet-natured, and lovable. No marvel then that he had “troops of friends” and never a foe.

“Gone into darkness, that full light
Of friendship! Past in sleep away
By night, into the deeper night!
The deeper night? A clearer day
Than our poor twilight dawn on earth.”

J. W. M.

INDEX

TO THE

ONE HUNDRED AND THIRTY-FOURTH VOLUME.

- Actinomyces, cultures and slides of, Dr. W. G. Harvey on, 60; Dr. T. T. O'Farrell on, 60.
- Actinomycosis, notes on three recent cases, Dr. W. D. O'Kelly on, 57.
- Adami, J. G., a text-book of pathology for students of medicine, *Rev.*, 354.
- Adams, P. H., pathology of the eye, *Rev.*, 191.
- Adamson, H. G., Goulstonian lectures on modern views upon the significance of skin eruptions, *Rev.*, 436.
- Aid, first, Sir John Collie and C. F. Wightmann, *Rev.*, 43.
- Anæmia, pernicious, iron metabolism in, 365; anæmia, splenic, cured by operation, 368.
- Anæsthetics, a practical handbook, by J. Blumfeld, *Rev.*, 123.
- Arnold, F. S., translator of auto-intoxication and disintoxication, by Dr. G. Guelpa, *Rev.*, 115.
- Arterio-sclerosis, ætiology of, 363.
- Atrophy, case of acute yellow, Dr. Wynne on, 54.
- Auto-intoxication and disintoxication, Dr. G. Guelpa, translated by F. S. Arnold, *Rev.*, 115.
- Barber, H. V., the tuberculin treatment of consumption, *Rev.*, 266.
- Bayly, H. W., the clinical pathology of syphilis and parasymphilis, *Rev.*, 446.
- Beattie, J. M., ed. of a system of surgery, *Rev.*, 44.
- Beddoes, T. P., prescribers' formulary and index of pharmacy, *Rev.*, 362.
- Bennett's fracture, 158.
- Benson, Dr. A. H., "In Memoriam," 469.
- Bicentenary of the School of Physic in Ireland, 141-146.
- Bicornuate uterus, suppurating undeveloped horn of, Dr. E. H. Tweedy on, 48.
- Bidwell, L. A., minor surgery, *Rev.*, 125.
- Blood pressure determination, remarks on, T. Gillman Moorhead on, 339.
- Blood, the, a guide to its examination, by G. L. Gulland and A. Goodall, *Rev.*, 117.
- Blumfeld, J., anæsthetics, a practical handbook, *Rev.*, 123.
- Boxwell, Dr. William, on pericardial effusion, 86; case of chronic skin disease, 220; a sketch of the development of therapeutic immunisation, 417.
- Brooks, L., physiology and anatomy made easy, *Rev.*, 266.
- Broncho-pneumonia and its complications in infancy, Professor L. Concetti on, translated from "Rivista Ospedaliera," Vol. II., No. 8, by G. Mahood Foy, 369.
- Broquet, C., translator of "Microbes and Toxins," by E. Burnet, *Rev.*, 269.
- Bruce, J. M., materia medica and therapeutics, *Rev.*, 270.
- Bury, J. S., diseases of the nervous system, *Rev.*, 118.
- Burnet, Dr. E., microbes and toxins, *Rev.*, 269.
- Camphor, toxic effect of, 140.
- Cancer in the upper rectum and pelvic colon, the operative treatment of, E. H. Taylor on, 134.
- Cancer, preventable, a statistical research, by R. Russell, *Rev.*, 260.
- Carmichael Prize Essay, 1912, 457.
- Case-taking, systematic, by H. L. McKisack, *Rev.*, 177.
- Cerebellar cysts, 364.
- Cerebellar tumour, a case of, A. A. McConnell on, 413, 453.
- Cerebro-spinal fluid, analysis of the diagnostic value of, 215.
- Chest, inspiratory compression of the, 239.

- Childhood, common disorders and diseases of, G. F. Still, *Rev.*, 113.
- Childhood, prevention of some common diseases of, by J. Sim Wallace, *Rev.*, 440.
- Children, diseases of, aids to the treatment of, by J. McCaw, *Rev.*, 440.
- Choyce, C. C., ed. of a system of surgery, *Rev.*, 44.
- Christopherson, W. B., translator of Sahli's tuberculin treatment, Dr. H. Sahli, *Rev.*, 42.
- Clinical disorders of the heart beat. T. Lewis, *Rev.*, 124.
- Clinical methods, B. Hutchison and H. Rainy, *Rev.*, 41.
- Coleman, F., anæsthetics in dental surgery, *Rev.*, 121.
- Collie, Sir J., first aid, *Rev.*, 43.
- Collie, Sir J., medico-legal examinations and the Workmen's Compensation Act, 1906, *Rev.*, 350.
- Concetti, Professor L., on broncho-pneumonia and its complications in infancy, 369.
- Constipation, spastic, X-ray investigation of, 367.
- Consumption, the tuberculin treatment of, by H. D. Barber, *Rev.*, 266.
- Craig, M., psychological medicine, a manual of mental diseases for practitioners and students, *Rev.*, 360.
- Craig, Professor J., on muscular dystrophy, 139.
- Crawford, Mr. H. de L., on hedonal as an anæsthetic, 455.
- Cunningham, D. J., Dr. James Little on, 81.
- Cunningham's manual of practical anatomy, edited by A. Robinson, *Rev.*, 346.
- Cyclopedia of American medical biography from 1610 to 1910, by H. A. Kelly, *Rev.*, 271.
- Dental caries, the prevention of, by J. S. Wallace, *Rev.*, 181.
- Dental examination papers for the diplomas of the Royal College of Surgeons, Edinburgh, and the Royal Faculty of Physicians and Surgeons, Glasgow, *Rev.*, 188.
- Dental State Board questions and answers, by R. M. Goepp, *Rev.*, 258.
- Dental surgery, anæsthetics in, by F. Coleman and H. Hilliard, *Rev.*, 121.
- Diabetes, J. Smyly on, 241.
- Dilling, W. J., materia medica and therapeutics, *Rev.*, 270.
- Diseases of the throat, nose and ear, by W. G. Porter, *Rev.*, 433.
- Dixon, F., manual of human osteology, *Rev.*, 346.
- Drury, H. C., on remote effects of syphilis, 1, 222.
- Dublin University Calendar for year 1912-1913, Vol. I., *Rev.*, 430.
- Dublin University, 141.
- Duodenal ulcer, by B. G. A. Moynihan, *Rev.*, 122.
- Dystrophy, muscular, Professor J. Craig on, 139.
- Editorial note, 468.
- Epinine compound tabloid, 368.
- "Ergamine," hypodermic, 0.001 gm. tabloid, 399.
- Extra pharmacopœia of Martindale and Westcott, revised by W. H. Martindale and W. W. Westcott, *Rev.*, 186.
- Eye, diseases of the, by M. S. Mayou, *Rev.*, 262.
- Eye, pathology of the, by P. H. Adams, *Rev.*, 191.
- Feeble-minded, care and control of the, Sir Christopher Nixon on, 192.
- Flexner, S., infection and recovery from infection, *Rev.*, 265.
- Fortescue-Brickdale, J. M., text-book for nurses, *Rev.*, 183.
- Fox, C. M., annals of the Irish harpers, *Rev.*, 178.
- Fox, S. F., mother and baby, *Rev.*, 440.
- Foy, G. M., translator of hypertrophy of the thymus gland and its treatment, by G. Pieri, 126.
- Foy, G. M., translator of syphilis of the thyroid gland, 273; and translator of broncho-pneumonia and its complications in infancy, by Professor T. Concetti, *Rev.*, 369.
- Gastric Ulcer, 468.
- Gibson, Dr. M. J., on hæmatocolpos and hæmatometra from atresia vaginalis, 283; hæmatocolpos and hæmatometra from atresia of the left vagina in a case of double uterus and vagina, 283; septic uterus removed immediately after Cæsarean section for sacculation following ventral suspension, 284.
- Goepp, R. M., Dental State Board questions and answers, *Rev.*, 258.
- Goodall, A., the blood, *Rev.*, 117.
- Groves, E. W. Hey, text-book for nurses, *Rev.*, 183.

- Grulee, C. G., infant feeding, *Rev.*, 264.
 Guelpa, Dr. G., auto-intoxication and disintoxication, *Rev.*, 115.
 Gulland, G. L., the blood, *Rev.*, 117.
 Gunn, Mr., on shreds in clear urine, 54.
- Hæmatocolpos and hæmatometra from atresia vaginalis, Dr. M. J. Gibson on, 283.
 Hæmatocolpos and hæmatometra from atresia of the left vagina in a case of double uterus and vagina, Dr. M. J. Gibson on, 283.
 Handbook of practical treatment by many authors, edited by J. H. Musser and A. O. J. Kelly, *Rev.*, 46.
 Hardy, Mr. Nelson, Carmichael Prize Essay, 1912, 457.
 Harpers, Irish, annals of the, by C. M. Fox, *Rev.*, 178.
 Harris, A., the etiology, diagnosis and prophylaxis of pulmonary phthisis, *Rev.*, 263.
 Harvey, William, some recently discovered letters of, by S. Weir Mitchell, *Rev.*, 120.
 Harvey, W. G., on cultures and slides of actinomyces, 60.
 Harvey's works, bibliography of, by C. P. Fisher, *Rev.*, 120.
 Health law, public, by W. Robertson and A. McKendrick, *Rev.*, 431.
 Hedonal as an anæsthetic, Mr. H. de L. Crawford on, 455.
 Henoch's purpura, a case of, Dr. M. S. Moore on, 92.
 Heredity, Bradshaw lecture on some points in, by R. C. Lucas, *Rev.*, 257.
 Herringham, W. P., kidney diseases, *Rev.*, 439.
 "Herself," talks with women concerning themselves, by E. B. Lowry, *Rev.*, 266.
 Hewitt, W. G., St. Luke's Hospital, medical and surgical reports, Vol. III., 1911, *Rev.*, 434.
 Hilliard, H., anæsthetics in dental surgery, *Rev.*, 121.
 History of the medical teaching in Trinity College, Dublin, and of the School of Physic in Ireland, by T. P. C. Kirkpatrick, *Rev.*, 32.
 Holmes, Dr. A. N., on some notes on a case of specific vaginitis, 286.
 Houston, Dr., eighth report on research work on the softening, purification and sterilisation of water supplies, *Rev.*, 359.
- Hutchison, R., clinical methods, *Rev.*, 41.
 Hypnotic, a new, 367.
- Icterus, diagnosis of chronic, 62.
 Infant feeding, by C. G. Grulee, *Rev.*, 264.
 Infantile paralysis in Massachusetts during 1910, *Rev.*, 442.
 Infection and recovery from infection, by S. Flexner, *Rev.*, 265.
 Infectious diseases, lectures upon the nursing of, by F. J. Woollacott, *Rev.*, 266.
 "In Memoriam," Sir Thornley Stoker, 76; Dr. Arthur Henry Benson, 469.
 Insomnia, its causes and treatment, by Sir James Sawyer, *Rev.*, 265.
 International Red-Cross Conference at Washington, 146.
 Intravenous injection of isoviscid substances, 386.
 Intussusception in children, 364.
 Iodine fumigations in gynæcological cases, 239.
- Jamieson, W. A., care of the skin in health, *Rev.*, 175, 436.
 Jellett, H., clinical report of the Rotunda Hospital for one year, Nov. 7th, 1910, to Oct. 31st, 1911, 14, 96, 278.
 Jellett, H., full-term pregnancy obstructed by a large sub-peritoneal myoma, 277; suppurating ovarian vein removed in a case of pyæmia, 277.
 Jones, H. Macnaughton, on report on the surgery of the peritoneum, 321.
- Kelly, A. O. J., editor of a handbook of practical treatment by many authors, *Rev.*, 46.
 Kelly, H. A., a cyclopedia of American medical biography from 1610 to 1910, *Rev.*, 271.
 Kidney diseases, by W. P. Herringham, with chapters on renal diseases in pregnancy, by H. Williamson, *Rev.*, 439.
 Kirkpatrick, T. P. C., history of the medical teaching in Trinity College, Dublin, and of the School of Physic in Ireland, *Rev.*, 32.

- Laryngological Association, American, Transactions of the thirty-third annual meeting held at Philadelphia, May, 1911, *Rev.*, 189.
- Leprosy, 159.
- Leprosy and its treatment, by P. K. Sarmà, *Rev.*, 37.
- Leriche, R., on syphilis of the thyroid gland, 273.
- Levico waters, Tyrol, the arsenio-ferrous, 73.
- Leukæmia, benzol in the treatment of, 366.
- Lewis, T., clinical disorders of the heart beat, *Rev.*, 124.
- Lickley, J. D., the nervous system, *Rev.*, 40.
- Literary intelligence, 72, 159, 300.
- Literary notes, 256, 300, 396, 457.
- Little, Dr. James, on Daniel John Cunningham, 81.
- Lowry, E. B., "Herself," talks with women concerning themselves, *Rev.*, 266.
- Lucas, R. C., the Bradshaw lecture on some points in heredity, *Rev.*, 257.
- Lumsden, Dr., on some notes on a case of specific vaginitis, 286.
- Madill, D. G., clinical report of the Rotunda Hospital for one year, Nov. 7, 1910, to Oct. 31, 1911, 14, 96.
- Martindale, W. H., the extra pharmacopœia of Martindale and Westcott, *Rev.*, 186.
- Materia medica and therapeutics, by J. M. Bruce, assisted by W. J. Dilling, *Rev.*, 270.
- Mayou, M. S., diseases of the eye, *Rev.*, 262.
- McCaw, J., aids to the treatment of diseases of childhood, *Rev.*, 440.
- McConnell, A. A., on a case of cerebellar tumour, 413, 453.
- McCrae, J., a text-book of pathology for students of Medicine, *Rev.*, 354.
- McDonagh, J. E. R., salvarsan in syphilis and allied diseases, *Rev.*, 119.
- Medical education and examinations in Ireland, 1912-1913, 303.
- Medicine, report on, T. Gillman Moorhead on, 363-368.
- Medicine, the principles and practice of, Sir William Osler, re-written and revised with the assistance of T. McCrae, *Rev.*, 352.
- Medicine series, practical, comprising 10 vols. on the year's progress in medicine and surgery, edited by J. B. Murphy, *Rev.*, 451.
- Medico-legal examinations and the Workmen's Compensation Act, 1906, Sir J. Collie, *Rev.*, 350.
- Meningitis due to bacillus typhosus, a case of, J. O'Carroll and F. C. Purser on, 10.
- Meningitis due to bacillus typhosus, Drs. O'Carroll and Purser on, 221.
- Microbes and toxins, by Dr. E. Burnet, translated by Dr. C. Broquet and W. M. Scott, *Rev.*, 269.
- Micrococcus catarrhalis as a cause of inflammation, 238.
- M'Kendrick, A., public health law, *Rev.*, 431.
- M'Kisack, H. L., systematic case-taking, *Rev.*, 177.
- Miles, A., manual of surgery, *Rev.*, 448.
- Mitchell, S. Weir, some recently discovered letters of William Harvey, with other miscellanea, *Rev.*, 120.
- Moll, Dr. A., the sexual life of the child, *Rev.*, 35.
- Moore, Dr. Maurice S., on a case of Henoch's purpura, 92.
- Moore, Sir John, sanitary and meteorological notes, 63, 68, 147, 152, 223, 228, 233, 290, 295, 387, 392, 458-467; non-notifiable infectious diseases as a cause of mortality in childhood, with suggestions for their control, 216.
- Moorhead, T. Gillman, on remarks on blood pressure determination, 339; report on medicine, 363.
- Morland, E., tuberculin treatment, *Rev.*, 39.
- Mother and baby, by S. F. Fox, *Rev.*, 440.
- Moynihan, B. G. A., duodenal ulcer, *Rev.*, 122.
- Mülzer, Dr. P., the therapy of syphilis, its development and present position, *Rev.*, 185.
- Murphy, J. B., editor of the year's progress in medicine and surgery, *Rev.*, 451.
- Musser, J. H., editor of a handbook of practical treatment by many authors, *Rev.*, 46.
- Myelogenous leukæmia, Dr. Parsons on, 137.
- National Insurance Act and State Medicine, Dr. R. Rowlette on, 218.
- National University of Ireland calendar for the year 1912, *Rev.*, 430.

- Nervous system, by J. D. Lickley, *Rev.*, 40.
- Nervous system, diseases of the, by J. S. Bury, *Rev.*, 118.
- Neuritis, bilateral brachial, 366.
- Neuritis, optic, in infectious diseases, 365.
- Newbold, A., translator of the therapy of syphilis, by Dr. P. Mülzer, *Rev.*, 185.
- New preparations and scientific inventions, 160, 240, 368, 399.
- Nixon, Sir Christopher, on statement of evidence given before the Royal Commission on the care and control of the feeble-minded, 192.
- Non-notifiable infectious diseases as a cause of mortality in childhood, with suggestions for their control, Sir John Moore on, 216.
- Nurses, text-book for, by E. W. Hey Groves and J. M. Fortescue-Brickdale, *Rev.*, 183.
- Nursing, modern methods in, by G. J. Sanders, *Rev.*, 180.
- O'Carroll, J., on a case of meningitis due to bacillus typhosus, 10, 221.
- O'Carroll, Dr. J., on "vitalism" in the practice of medicine, 401.
- Oesophagismus in a child aged three years, Dr. G. Peacocke on, 220.
- O'Farrell, T. T., on cultures and slides of actinomycetes, 60.
- O'Kelly, Dr. W. D., on human actinomycosis showing relation of fungus to implanted tissue, 57; actinomycosis, notes on three recent cases, 57.
- Operating theatre in private practice, by C. H. Whiteford, *Rev.*, 270.
- Osler, Sir William, the principles and practice of medicine, *Rev.*, 352.
- Osteology, human, manual of, by A. F. Dixon, *Rev.*, 346.
- Ovarian vein suppurating, removed in a case of pyæmia, Dr. H. Jellett on, 277.
- Oysters, purification of, 222.
- Paralysis, acute general, 73.
- Paralysis, facial, resulting from malignant tumour of left internal auditory meatus, Dr. G. Peacocke on, 220.
- Parsons, Dr., on mylogenous leukæmia, 137.
- Pathology, a text-book of, for students of medicine, J. G. Adami and J. McCrae, *Rev.*, 354.
- Paul, Dr. E., translator of the sexual life of the child, by Dr. A. Moll, *Rev.*, 35.
- Peacocke, George, on facial paralysis, resulting from malignant tumour of left internal auditory meatus; oesophagismus in a child aged three years, 220.
- Pedley, R. D., the care of teeth during school life, *Rev.*, 176.
- Pericardial effusion, William Boxwell on, 86.
- Periscope, 62, 72, 73, 74, 75, 140, 146, 157, 158, 159, 215, 222, 238, 239, 240, 256, 276, 289, 300, 301, 302, 320, 386, 397, 400, 457, 468.
- Peritoneum, report on the surgery of the, H. Macnaughton-Jones on, 321.
- Peritoneum, report on the surgery of, 400.
- Phantasms of life, Dr. W. G. Smith on, 161.
- Phenolsulphonephthalein in the exploration of the renal function, 302.
- Phthisis, pulmonary, the etiology, diagnosis and prophylaxis of, by A. Harris, *Rev.*, 263.
- Physiology and anatomy made easy, by L. Brooks, *Rev.*, 266.
- Physiology, new, in surgical and general practice, A. R. Short, *Rev.*, 353.
- Pickerill, H. P., stomatology in general practice, *Rev.*, 355.
- Pieri, G., on hypertrophy of the thymus gland, and its treatment, 126.
- Pneumonia, treatment of, based on the elimination of sodium chloride, 365.
- Poncet, M. M. A., on syphilis of the thyroid gland, 273.
- Porter, W. G., diseases of the throat, nose and ear, *Rev.*, 433.
- Post-mortems and morbid anatomy, by T. Shennan, *Rev.*, 34.
- Pregnancy, full term, obstructed by a large sub-peritoneal myoma, Dr. H. Jellett on, 277.
- Prescribers' formulary and index of pharmacy, by T. P. Beddoes, *Rev.*, 362.
- Procidencia, care and cure of, as it occurs in the parous woman, Dr. E. H. Tweedy on, 49.
- Proctologic Society, American, 289.
- Prolapse and pregnancy, with a note on vaginal suspension of the uterus, Dr. B. Solomons on, 49.
- Psychological medicine, a manual of mental diseases for practitioners and students, by M. Craig, *Rev.*, 360.
- Psychotherapy, by J. J. Walsh, *Rev.*, 444.

- Purser, F. C., on a case of meningitis due to bacillus typhosus, 10, 221.
- Pusey, W. A., the care of the skin and hair, *Rev.*, 436.
- Rainy, H., clinical methods, *Rev.*, 41.
- Rectum, surgery of the, for practitioners, by Sir F. Wallis, *Rev.*, 435.
- Research work, eighth report on the softening, purification and sterilisation of water supplies, by Dr. A. C. Houston, *Rev.*, 359.
- Riviere, C., tuberculin treatment, *Rev.*, 39.
- Robertson, Wm., public health Law, *Rev.*, 431.
- Robinson, A., editor of Cunningham's manual of practical anatomy, *Rev.*, 346.
- Roentgenologic method of examining cases of constipation and obstipation—a method of visualisation of abdominal lesions of the intestinal tract, 397.
- Rotunda Hospital, clinical report for one year, Nov. 7, 1910, to Oct. 31, 1911, by Dr. H. Jellett and B. A. H. Solomons, and D. G. Madill, 14, 96.
- Rotunda Hospital, clinical report for year ending Oct. 31, 1911. Dr. H. Jellett on, 278.
- Rotunda Hospital, pathological report of, for one year, Nov. 7, 1910, to Oct. 31, 1911, by Dr. R. J. Rowlette, 105.
- Rowlette, R. J., pathological report of the Rotunda Hospital for one year, Nov. 7, 1910, to Oct. 31, 1911, 105; the National Insurance Act and State Medicine, 218; on vaccines in the treatment of puerperal sepsis, 286.
- Royal Academy of Medicine in Ireland, 48–60, 133, 145, 216, 222, 277, 278, 283, 284, 286, 452, 453, 454, 455, 456.
- Royal College of Surgeons of Edinburgh, 74, 301, 429.
- Royal College of Surgeons in Ireland, 145.
- Royal College of Physicians of Ireland, 143.
- Russell, Rollo, preventable cancer, a statistical research, *Rev.*, 260.
- Sahli, Dr. H., Sahli's tuberculin treatment, *Rev.*, 42.
- Salvarsan in syphilis and allied diseases, by J. E. R. McDonagh, *Rev.*, 119.
- Sanders, G., modern methods in nursing, *Rev.*, 180.
- Sanitary and meteorological notes, 63, 68, 147, 152, 223, 228, 233, 290, 295, 387, 392, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467.
- Sarmà, P. K., leprosy and its treatment, *Rev.*, 37.
- Sawyer, Sir J., insomnia, its causes and treatment, *Rev.*, 265.
- Schmieden, Professor, course of operative surgery, 457.
- Scott, W. M., translator of microbes and toxins, *Rev.*, 269.
- Sexual impotence, by V. G. Veeki, *Rev.*, 267.
- Sexual life of the child, by Dr. A. Moll, translated by Dr. E. Paul, *Rev.*, 35.
- Shennan, T., *post-mortems* and morbid anatomy, *Rev.*, 34.
- Short, A. R., the new physiology in surgical and general practice, *Rev.*, 353.
- Sibley, W. K., the treatment of diseases of the skin, *Rev.*, 436.
- Skin, care of, in health, by W. A. Jamieson, *Rev.*, 175, 436.
- Skin, care of the skin and hair, by W. A. Pusey, *Rev.*, 436.
- Skin disease, case of chronic, Dr. Boxwell on, 220.
- Skin, eruptions, Goulstonian lectures on modern views upon the significance of, by H. G. Adamson, *Rev.*, 436.
- Skin practice, golden rules of, by D. Walsh, *Rev.*, 188.
- Skin, treatment of diseases of the skin, by W. K. Sibley, *Rev.*, 436.
- Smith, Dr. W. G., on phantasms of life, 161.
- Smyly, Dr. Jocelyn, on diabetes, 241.
- Solomons, B. A., on clinical report of the Rotunda Hospital for one year, Nov. 7, 1910, to Oct. 31, 1911 14, 96; prolapse and pregnancy, with a note on vaginal suspension of the uterus, on, 49.
- Splanchnoptosis of viscera of thorax and abdomen, 157.
- Spina bifida, Mr. R. Atkinson Stoney on, 133.
- Still, G. F., common disorders and diseases of childhood, *Rev.*, 113.
- Stoker, Sir Thornley, "In Memoriam," 76.
- Stomatology in general practice, by H. P. Pickerill, *Rev.*, 355.

- Stoney, Mr. A., on spina bifida, 133.
- St. Luke's Hospital, medical and surgical reports, Vol. III., 1911, *Rev.*, 434.
- Surgery, a system of, edited by C. C. Choyce and J. M. Beattie, *Rev.*, 44.
- Surgery, manual of, by A. Thomson, and A. Miles, *Rev.*, 448.
- Surgery, minor, by L. Bidwell, *Rev.*, 125.
- Surgery, operative, course of, Professor Schmieden, translated and edited by A. Turnbull, 457.
- Sycosis, 320.
- Syphilis and parasymphylis, the clinical pathology of, by H. W. Bayly, *Rev.*, 446.
- Syphilis, hereditary tertiary, of the nose, ear and eye, 75.
- Syphilis, remote effects of, H. C. Drury on, 1, 222.
- Syphilis, the therapy of, Dr. P. Mülzer, preface by Professor P. Uhlenhuth, translated by A. Newbold, *Rev.*, 185.
- Tabloids, new ophthalmic, 160.
- Taenia and tuberculosis, 276.
- Taylor, E. H., on the operative treatment of cancer in the upper rectum and pelvic colon, 134.
- Teat and capillary glass tube handbook of the technique of, Sir A. E. Wright, *Rev.*, 184.
- Teeth, care of the, during school life, by R. D. Pedley, *Rev.*, 176.
- Therapeutic immunisation, a sketch of the development of, W. Boxwell on, 417.
- Thomson, A., manual of surgery, *Rev.*, 448.
- Thymus gland, hypertrophy of the, and its treatment, Dr. G. Pieri on, translated by G. Mahood Foy, 126.
- Thyroid gland, syphilis of the, M. M. A. Poncet on, and René Leriche on, translated by G. M. Foy, 273.
- Tuberculin treatment, by C. Riviere and E. Morland, *Rev.*, 39.
- Tuberculin treatment, Sahli's, by Dr. H. Sahli, translated by W. B. Christopherson, introductory note by E. Morland, *Rev.*, 42.
- Turnbull, A., translator and editor of "Course of Operative Surgery," by Professor Schmieden, 457.
- Tweedy, Dr. E. H., on suppurating undeveloped horn of bicornuate uterus, 48; case and cure of procidentia, as it occurs in the parous woman, 49.
- Urine, shreds in clear, Mr. Gunn on, 54.
- Uterus, septic, removed immediately after Cæsarean section for sacculation following ventral suspension, Dr. J. M. Gibson on, 284.
- Vaccines in the treatment of puerperal sepsis, Dr. R. J. Rowlette on, 286.
- Vaginitis, specific, some notes on a case of, Drs. Lumsden and A. N. Holmes on, 286.
- "Vaporole," pituitary extract 0.5 cc., 240.
- Varicose ulcers, specific and non-specific, treatment of, 238.
- Vecki, V. G., sexual impotence, *Rev.*, 267.
- "Vitalism" in the practice of medicine, Dr. J. O'Carroll on, 401.
- Wallace, J. Sim, occasional papers on the prevention of some common diseases in childhood, *Rev.*, 440.
- Wallace, J. S., the prevention of dental caries, *Rev.*, 181.
- Wallis, Sir F., the surgery of the rectum for practitioners, *Rev.*, 435.
- Walsh, D., golden rules of skin practice, *Rev.*, 188.
- Walsh, J. J., psychotherapy, *Rev.*, 444.
- Westcott, W. Wynn, the extra pharmacopœia of Martindale and Westcott, *Rev.*, 186.
- Whiteford, C. H., operating theatre in private practice, *Rev.*, 270.
- Wightman, C. F., first aid, *Rev.*, 43.
- Woollacott, F. J., lectures upon the nursing of infectious diseases, *Rev.*, 266.
- Wright, Sir A. E., handbook of the technique of the teat and capillary glass tube, *Rev.*, 184.
- Wynne, Dr., on case of acute yellow atrophy, 54.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE:

CONTAINING

ORIGINAL COMMUNICATIONS,
REVIEWS, ABSTRACTS, AND REPORTS,

IN

Medicine, Surgery, and Collateral Sciences.

EDITED BY

Sir JOHN MOORE, M.A., M.D., D.P.H., Dubl.; D.Sc., Oxon.; F.R.C.P.I.

AND

T. GILLMAN MOORHEAD, B.A., M.D., Dubl.; F.R.C.P.I.



THIRD SERIES.

No. 487.

JULY,

1912.

DUBLIN: FANNIN & CO., LTD., GRAFTON-STREET.

To whom Communications for the Editor and Books for Review are to be addressed.

LONDON: SIMPKIN, MARSHALL & CO.

EDINBURGH: JAMES THIN.

AGENT IN AMERICA—G. E. STECHERT & CO., 151 to 155 WEST 25TH-ST., N.Y.

ANNUAL SUBSCRIPTION, £1.—SINGLE NUMBER, 2s.

PUBLISHED MONTHLY.

We have experimentally proved that Listerine is a powerful antiseptic, preventing the development of bacteria and decomposition of vegetable infusions.—*British Medical Journal*, May 3, 1890.

LISTERINE is an efficient, non-toxic ANTISEPTIC of known and definite power, prepared in a form convenient for immediate use.

It is a saturated solution of boric acid, reinforced by the antiseptic properties of ozoniferous oils.

It is unirritating, even when applied to the most delicate tissue.

It does not coagulate serous albumen.

It is quite generally accepted as the standard antiseptic preparation for use where a poisonous or corrosive disinfectant cannot be safely used.

It is particularly useful in the treatment of abnormal conditions of the mucosa, and admirably suited for a wash, gargle or douche in catarrhal conditions of the nose and throat.

In proper dilution, it may be freely and continuously used without prejudicial effect, either by injection or spray, in all the natural cavities of the body.

There is no possibility of poisonous effect through the absorption of Listerine.

A pamphlet descriptive of the antiseptic and indicating its utility in medical, surgical and dental practice, may be had upon application to the manufacturers, Lambert Pharmacal Co., Locust and Twenty-first Streets, St. Louis, Missouri, U.S.A., or to their British Agents, Messrs. S. Maw, Son & Sons, 7-12 Aldersgate Street, London, Eng., but the best advertisement of Listerine is



LISTERINE

Valentine's Meat-Juice

In **Diarrhoea, Dysentery and Cholera Infantum** where it is **Essential to Conserve the Weakened Vital Forces** without **Irritating the Digestive Organs, Valentine's Meat-Juice** demonstrates its **Ease of Assimilation** and **Power to Sustain and Strengthen.**

Diseases of Children

W. T. Watt, M. D., *Director Imperial Medical College, Tientsin, China:* "In cases of Infantile Diarrhoea, which weakens and debilitates a child rapidly, I have found Valentine's Meat-Juice a great stimulant and quick restorative of vitality. Three years ago, when an epidemic broke out in Tientsin, I ordered my staff to try your Meat-Juice, which justified all expectations, having been satisfactory to patients and physicians alike."

Henry N. Read, M. D., *Prof. Diseases of Children, Long Island College Hospital, Brooklyn, N. Y.:* "I have long used Valentine's Meat-Juice, especially in Diseases of Children, and esteem it highly. It has proven most valuable in the Enteric Disorders of Children, both in my practice and Hospital work."



For Sale by European and American Chemists and Druggists

VALENTINE'S MEAT-JUICE COMPANY,

Richmond, Virginia, U. S. A.

"APENTA"

THE BEST NATURAL APERIENT WATER.




"THE predominance of Magnesium Sulphate and
"the presence of Lithium in **APENTA WATER** having
"been recently pointed out by **Professor Pouchet**, I
"determined to ascertain for myself the properties of
"this water, and for this purpose I prescribed it for a
"large number of my patients.

"My observations have proved that **APENTA**
"**WATER** is an **excellent, very active purgative**, and
"of **strictly constant composition**. Its action is **mild**
"and **reliable**, and a wineglassful acts as an **aperient**
"**without producing either griping or discomfort**. It
"is the Water **specially suited** for the **treatment** of
"**habitual constipation**. Moreover, by its special and
"constant composition this Water **appears to me to**
"**merit a place by itself in the therapeutics of Mineral**
"**Waters.**"

PARIS, 4th February, 1899.

DR. LANCEREAUX,

*Professeur à la Faculté de Médecine, Paris ;
Médecin honoraire des Hôpitaux ;
Président de l'Académie de Médecine.*



SOLE IMPORTERS—

The Apollinaris Company, Ltd., London.



SERIAL

R
31
185
ser.3
v.134

GERSTS

